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TWELFTH BIENNIAL REPORT
OF THE
State Board of Health
OF
CALIFORNIA
— ♦ ♦ ♦ —
1890-92

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TWELFTH BIENNIAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

CALIFORNIA,

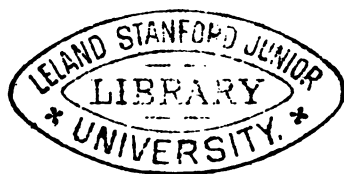
FOR THE FISCAL YEARS FROM JUNE 30, 1890, TO JUNE 30, 1892.



SACRAMENTO:

STATE OFFICE, : : : : A. J. JOHNSTON, SUPT. STAT

1892.



17.25929.

OFFICE CALIFORNIA STATE BOARD OF HEALTH, }
SACRAMENTO, September 15, 1892. }

To his Excellency H. H. MARKHAM, Governor of California:

SIR: I have the honor to present to you, in compliance with the laws of the State, the twelfth Biennial Report of the State Board of Health, for the fiscal years from June 30, 1890, to June 30, 1892.

Very respectfully,

J. R. LAINE, M.D.,
Secretary State Board of Health.

MEMBERS OF THE CALIFORNIA STATE BOARD OF HEALTH.

TO APRIL 20, 1891.

President.

HENRY S. ORME, M.D. Los Angeles.

Secretary.

GERRARD G. TYRRELL, M.D. Sacramento.

-W. R. CLUNESS, M.D. Sacramento.

R. BEVERLY COLE, M.D. San Francisco.

JAMES SIMPSON, M.D. San Francisco.

J. M. BRICELAND, M.D. Shasta.

-C. A. RUGGLES, M.D. Stockton.

PRESENT MEMBERS OF THE STATE BOARD OF HEALTH.

W. G. COCHRAN, M.D. Los Angeles.

J. R. LAINE, M.D. Sacramento.

-W. R. CLUNESS, M.D. Sacramento.

C. W. NUTTING, M.D. Etna.

-C. A. RUGGLES, M.D. Stockton.

P. C. REMONDINO, M.D. San Diego.

OFFICERS OF THE BOARD.

W. G. COCHRAN, M.D. President.

J. R. LAINE, M.D. Secretary.

GENERAL REPORT OF THE BOARD.

To his Excellency H. H. MARKHAM, Governor of California:

SIR: Agreeable to an Act establishing a State Board of Health, and defining its powers, the twelfth Biennial Report of the State Board of Health is hereby submitted.

The purpose and ultimate object of establishing the California State Board of Health is the conservation and improvement of the public health. All the functions with which the Board may be endowed are specifically designed for the promotion and accomplishment of this end.

The law specifies that the Board must place themselves in communication with the local Boards of Health, hospitals, asylums, and public institutions throughout the State, and take cognizance of the interests of health and life among the citizens generally. They must make sanitary investigations and inquiries respecting the causes of disease, especially of epidemics, the source of mortality and the effects of localities, employments, conditions, and circumstances on the public health, and gather such information in respect to these matters as they may deem proper for diffusion among the people. They may devise some scheme whereby medical and vital statistics of sanitary value can be obtained, and act as an advisory Board to the State in all hygienic and medical matters, especially such as relate to the location, construction, sewerage, and administration of prisons, hospitals, asylums, and other public institutions. They must, at each biennial session of the Legislature, make a report, with such suggestions as to legislative action as they deem proper. It is also made the duty of the Board to examine into and report on the effect and use of intoxicating liquors upon the industry, prosperity, happiness, health, and lives of the citizens of the State, and what legislation, if any, is needed in the premises.

These specified duties are general in character, and make the functions of the Board purely advisory, with no mandatory authority over any condition or influence, however dangerous, which may threaten the health and life of the people of the State. In regard to the functions and duties of the Board, so far as they relate to any of the influences which affect public health, they are wholly performed when the Board suggests or advises what ought to be done. In other respects its function is that of a public educator, in teaching the precepts of health and the fundamental laws of public hygiene. This includes assistance and persuasion in organizing local Boards and calling attention to their duties and responsibilities, and indicating the direction which will make their efforts effective.

The only branch of public hygiene which, in the exercise of official function, possesses executive power to execute and enforce sanitary laws, is the local Board of Health. To bring the State and local Boards into a closer relation, tending to a uniformity of general action in sanitary work, will be the aim of the State Board.

The monthly reports of deaths and diseases published by the State Board are obtained exclusively from the Secretaries of local Boards, Health Officers, and physicians, who perform this work gratuitously for the public good. The Board is wholly dependent upon such sources of information for its knowledge of the condition of the health of the State. In order to utilize the information so received it is the custom to issue a

monthly circular to all the local Boards of Health, and to such other citizens who may desire it, giving as accurate a statement of the condition of the public health during the previous month as can be made from the facts obtained. There has been an active interest and willing coöperation on the part of correspondents. It is the intention of the State Board to invite the local Boards and correspondents to meet in convention, to council as how best to increase the efficiency of the sanitary authorities of the State. As all real authority is vested in the local Boards, it is manifest that the greatest effectiveness will be reached by organization.

The remainder of the appropriation to exclude contagious diseases from the State amounted to \$5,982 45, July 1, 1890. Of this sum there remained unexpended on July 1, 1892, \$5,732 45. The maintenance of a Medical Inspector on the Oregon line during the epidemic of smallpox in British Columbia, in July and August, reduced the fund to about \$5,300.

ASIATIC CHOLERA.

In view of the rapid spread of Asiatic cholera in Europe, and the probability of its reaching the United States before the epidemic dies out, the advisability of making a generous appropriation for inspection and prevention purposes, at the State lines where railroads enter the State, is earnestly urged.

Should it become necessary to establish quarantine and refuge stations, there are four points that should be fully covered to make it effective. It would be necessary to place one on the Oregon line in the north; another near Truckee; another at The Needles, and another at Yuma. In addition to placing Inspectors at those points to inspect all trains, it would be necessary to provide for the establishment of hospitals of some character, either tents or temporary board shelters, with the necessary supplies of bedding, food, and medicine, to care for the sick and well while detained. It is impossible, at this time, to estimate how much it will be necessary to do; but, if an attempt be made towards the establishment of anything like a rigid land quarantine, it will involve the expenditure of a large amount of money. In addition, it is necessary to take into account the number of people it will be necessary to employ in carrying out these measures. It will also be necessary for the State to quarantine the port of San Pedro. Inspectors will not only need to be paid, but people engaged in fumigating cars, baggage, and other effects, and those employed in nursing the sick in quarantine camps will doubtless exact larger salaries than they would receive in ordinary employment. We believe that these contingencies will justify a large appropriation to be made, under such restrictions as the Legislature may deem advisable. The Board, therefore, in view of the situation at this time (September 15th), recommends that an appropriation of \$50,000 be made for the prevention of contagious diseases.

Very respectfully,

W. G. COCHRAN, M.D., President.
J. R. LAINE, M.D., Secretary.
C. A. RUGGLES, M.D.
C. W. NUTTING, M.D.
W. R. CLUNESS, M.D.
P. C. REMONDINO, M.D.

ABSTRACT OF PROCEEDINGS OF THE BOARD.

AS SHOWN BY THE MINUTES.

THE REGULAR QUARTERLY MEETING OF THE STATE BOARD OF HEALTH

Was held in the office of the Secretary, July 23, 1890.

Present—Dr. Orme, President; G. G. Tyrrell, Secretary; Dr. J. M. Briceland, Shasta; Dr. C. A. Ruggles, Stockton, and Dr. W. R. Cluness, Sacramento. Absent—Dr. Jas. Simpson and Dr. R. B. Cole, San Francisco.

The minutes of the last meeting were read and approved.

The Secretary reported that since the last meeting of the Board a communication had been received from the State Analyst, informing the Board that he was about leaving for Europe, and would be glad to represent it in the International Medical Congress to be held in Berlin, in August. As this was an opportunity for our Board to obtain, through Professor Rising, a report of the section on hygiene, I issued to him credentials as a delegate to the Congress from this Board, with a request that he report the proceedings.

On motion, the action of the Secretary was approved.

The Secretary reported that he had received a communication, accompanied by a long petition, from the citizens of Dunsmuir, requesting the Board to appoint a Health Officer for that town, the Supervisors refusing to do it, although it was claimed to contain five hundred inhabitants.

I wrote to the District Attorney, advising him of the request, and asking them to enforce the law. In reply I received the following:

YREKA, CAL., June 14, 1890.

G. G. TYRRELL, M.D., *Secretary State Board of Health*:

DEAR SIR: Your communication of date of June 9th has been received. I have looked into the facts and situation fully, and have concluded that it would be well to advise you of same before taking action. There never has been a petition presented to our Board of Supervisors for the appointment of a Health Officer for the town of Dunsmuir, by affidavit, or otherwise; that the town of Dunsmuir contains five hundred or more inhabitants. The Supervisor from that district stated that he was satisfied that the town did not contain the required five hundred inhabitants. The only written application ever made was by Mr. J. N. White. This was only a request for the appointment, and contained no showing whatever that the town was entitled to such appointment.

In the absence of official knowledge, which they cannot have in this case, the Board should have some satisfactory proof as to the number of inhabitants, before acting. The Board, no doubt, as soon as satisfactory proof is given that Dunsmuir is entitled to the appointment of a Health Officer, will make the appointment. Members of the Board tell me that the only reason for not making the appointment was the absence of proof that Dunsmuir is entitled to the appointment, and that when that is forthcoming they will promptly make the same. Please reply.

Yours very respectfully,

J. D. BEARD.

On receipt of the above, I at once forwarded the petition of the citizens to be presented to the Board of Supervisors, with a request that immediate action be taken, which elicited the following reply:

G. G. TYRRELL, M.D., *Secretary State Board of Health*:

DEAR SIR: Received your letter yesterday, and also the petition forwarded to your Board from Dunsmuir. At the next meeting of the Board of Supervisors, I think that this matter will be adjusted satisfactorily. The Board meets on first Monday in July.

Yours truly,

J. D. BEARD.

Since that date the Board of Supervisors have met, but made no appointment. On motion of Dr. Briceland, the Secretary was instructed to wait until the official report of census was made, and then if it was ascertained that Dunsmuir contained the number of inhabitants to entitle it to a Health Officer, to have one appointed, which was carried.

The Secretary reported that he had requested the City Attorney of Monterey to have a Board of Health organized and a Health Officer appointed for Monterey. In reply he promised to attend to the matter without delay. Action approved.

The Secretary introduced to the Board a Mr. Schoonmaker, from Lodi, who desired to exhibit for the approval of the Board an adjustable bathtub seat for the use of the sick. The invention consisted of a metal or iron standard fastened to the wall, upon which a slatted seat with adjustable rack was placed. Upon examination by the Board, it was of the opinion that under many conditions the invention was likely to prove useful, and had no hesitation in recommending its trial by hospital or private institutions.

The Secretary was authorized to convey the Board's opinion to Mr. Schoonmaker.

Dr. C. A. Ruggles, delegate to the National Conference of State Boards of Health, begged leave to report verbally his action. He stated, as preliminary, that on his way south he traveled with a Dr. Stevens, a practitioner in New Mexico, who informed him of the great prevalence of smallpox in El Paso and Deming and vicinity, so much so that merchants were leaving in affright.

Dr. Ruggles, deeming this information of the utmost importance to California, at once wrote to Dr. Tyrrell, advising him to take immediate steps to ascertain the extent of the epidemic, and to establish quarantine, with the consent of the Board, if necessary.

Upon arriving at Nashville he was, on making himself known, received most cordially by the delegates at the conference. The principal discussion of the conference was upon the necessity of teaching the public the value of sanitation, and it was considered that this object was better attained by short articles for the press upon sanitary subjects, and the assistance of Boards of Health pamphlets upon the different zymotic diseases, and on house ventilation, disposal of garbage, and kindred subjects.

Dr. Lee, of Philadelphia, presented a very able paper upon leprosy. His opinion was that the disease was only contagious through inoculation. On the contrary, one doctor held that the disease was neither infectious nor contagious, giving several facts in defense of his theory.

Dr. Orme's report on leprosy was next presented to the conference by Dr. Ruggles, but no conclusion was arrived at by the meeting.

The next subject under discussion was the Interstate Quarantine law. Dr. Ruggles explained fully the position of California in regard to this matter. Dr. Bryce, of Ontario, Canada, introduced the subject of disinfection in contagious diseases by the use of sulphurous acid, supporting his theory in a very plausible manner. Dr. Rutherford, of Texas,

combated Dr. Bryce's opinion, and explained that he had no faith in sulphurous acid, but firmly believed in the efficacy of chlorine gas and fire, especially in fire. Dr. Bryce then presented a valuable paper upon the effect of denudation of the land of forest trees.

The question of this Board upon the preservation of potable water from pollution was then brought forward by Dr. Ruggles, and after some discussion the conclusion arrived at was that the only way of preserving the potable waters was by preventing their pollution by stringent laws. Dr. Ruggles then presented the resolution of this Board asking the amalgamation of the conference with the American Public Health Association, which was immediately voted down as impolitic.

Upon adjournment of the conference, Dr. Ruggles proceeded to Washington, where he presented his letter of introduction to our Congressmen, Hon. T. J. Clunie and Hon. Marion Biggs, who received him most cordially and conducted him to President Harrison, to whom he explained the wants of this coast in the way of sanitary protection. From there Messrs. Clunie and Biggs took Dr. Ruggles to see Surgeon-General J. B. Hamilton. While conversing with this gentleman on the necessity of maintaining a strict quarantine on our southern border, a telegram was received from Dr. Tyrrell asking the appointment of a Government Inspector in New Mexico, as smallpox was reported epidemic. Surgeon-General Hamilton at once complied and telegraphed Dr. Tyrrell that he had appointed Dr. S. S. Herrick to the position.

Dr. Ruggles' verbal report was received and the thanks of the Board returned, with the request that Dr. Ruggles furnish a written report for publication in the next Biennial Report, which was carried.

The Secretary begged leave to report that, as detailed by Dr. Ruggles, he had received a letter from the doctor giving him an alarming account of the prevalence of smallpox in Mexico, and advising immediate steps be taken to prevent its extension to California. Your Secretary at once consulted Dr. Cluness, the only member of the Board available in an emergency, and he advised that I at once proceed to San Francisco and, if possible, engage the services of Dr. S. S. Herrick, and send him south and into Mexico to ascertain how far our State was threatened and to what extent smallpox prevailed. On arriving at San Francisco, I sought Dr. Herrick and obtained his consent to travel as far as El Paso, and points through Mexico and Arizona, at a salary of \$250 a month and expenses paid. I called upon the railroad authorities, explained to them the situation, and obtained every facility the railroad could offer to make the inspection complete. The Governor of the State at once consented to place \$1,000 at the service of the Board, out of the Contagious Disease Fund, of which sum your Secretary drew \$500, and on the 21st of May dispatched Dr. Herrick upon his mission. I herewith submit Dr. Herrick's report, which he will write out in full for the Biennial Report this year. The expenses and salary of Dr. Herrick for one month were \$398 40, leaving at the disposal of the Board \$101 60.

The Secretary's report was received, and his action unanimously indorsed.

The Secretary then read Dr. Herrick's report, which declared that, after careful inspection, he was of the opinion that although smallpox was undoubtedly present in Mexico and the valley of the Rio Grande, it did not immediately threaten California; but believing that it was epidemic in those places visited, and most likely to become epidemic when the

cold weather set in, California should have an Inspector constantly on the watch against the extension of the disease.

Dr. Herrick's report was received and accepted.

In view of the conclusion of the report, Dr. Cluness moved, and Dr. C. A. Ruggles seconded the motion, that it is the sense of this Board that a Government Inspector should be permanently located in the Rio Grande Valley, in the Territories of Arizona and New Mexico, for the protection of California from contagious and infectious diseases, and that Surgeon-General Hamilton be requested to make such appointment, at the expense of the National Government, which was unanimously carried, and the Secretary instructed to write Surgeon Hamilton without delay.

The Secretary reported progress in the codification of the health laws, but owing to the increased correspondence of the Board, which occupied his time, he would be unable to get them ready for incorporation in the Biennial Report without some clerical assistance.

On motion, the Secretary was authorized to employ the necessary assistance, in order to have the laws published in the Biennial Report.

In view of the increased correspondence of the Board, Dr. Cluness moved, which was seconded by Dr. Briceland, that the Secretary be authorized to purchase, for the use of the Board, a Remington or other first-class type-writer, which was carried.

Dr. Orme reported progress with his paper on leprosy for the Biennial Report, for which he had obtained some illustrative photographic views, but did not feel justified in going to the expense of having them lithographed for publication.

On motion of Dr. Cluness, seconded by Dr. Briceland, this Board authorized Dr. Orme to have his paper illustrated at the expense of the Board.

After discussion of various matters upon sanitation, there being no further business, upon motion, the meeting adjourned.

G. G. TYRRELL,
Secretary.

THE REGULAR MEETING OF THE STATE BOARD OF HEALTH

Was held in the office of the Secretary, October 11, 1890, at the usual hour.

Present—Dr. H. S. Orme, President; Dr. G. G. Tyrrell, Secretary; Dr. J. M. Briceland and Dr. C. A. Ruggles.

The minutes of the last meeting were read and approved.

The Secretary presented the following communication from the Stockton "Daily Republican:"

To the President and Members of the State Board of Health, Sacramento, California:

GENTLEMEN: The subscribers, publishers of the Stockton "Daily Republican," desire handling in the columns of your paper the live subjects of the day. In that connection they are pleased to say to your honorable body, and its members individually, that if you desire to furnish an article, or a series of articles, at least once a month, on health and its conditions on the Pacific Coast, or any other subject-matter pertinent to the knowledge and labors of your Board, which, in your judgment, would be of interest to the general public, the "Republican" will be pleased to publish it. Desiring a favorable reply, we are,

Your very obedient servants,

DORMER & RUGGLES,
Proprietors Stockton "Daily Republican."

It was moved by Dr. Briceland, and seconded by Dr. Tyrrell, that the communication be placed on file, its invitation be accepted, and that the thanks of the Board be returned to the gentlemen, through the Secretary, which was unanimously carried.

The following communication was received from Surgeon-General Hamilton.

TREASURY DEPARTMENT,
OFFICE OF THE SUPERVISING-GENERAL U. S. MARINE HOSPITAL SERVICE,
WASHINGTON, D. C., September 13, 1890. }

Dr. G. G. TYRRELL, Secretary State Board of Health, Sacramento, California:

SIR: I have respectfully to acknowledge the receipt, August 1st, of your letter containing a resolution of the State Board of Health of California, to the effect that a Government Inspector should be permanently located in the valley of the Rio Grande, in the Territories of Arizona and New Mexico, for the protection of California from smallpox and other infectious diseases, and that the appointment of said Inspector be requested of the Surgeon-General, Marine Hospital Service, the expense to be borne by the National Government. In the absence of Surgeon-General Hamilton, and because the request is for a permanent appointment, I have deferred taking action in the matter, but in the meantime have made inquiries concerning the smallpox in Mexican territory adjoining that of the United States, and in the valley of the Rio Grande. The whole matter will be brought to the attention of Surgeon-General Hamilton on his return from a tour of duty in Europe the present month.

By order of the Supervising Surgeon-General, Marine Hospital Service.

Respectfully yours,

WALTER WYMAN,
Surgeon M. H. S.

On motion, the communication was placed on file for further action.

A communication from Dr. Bailey, of Santa Ana, was read, complaining of the difficulty he had in having the health laws strictly obeyed, and asking some questions relating thereto. The Secretary read his reply thereto, which, on motion, was approved and the communication ordered on file.

The Secretary presented a manuscript copy of the health laws and ordinances as compiled by Dr. S. S. Herrick, and moved that the Board allow him a sufficient compensation for his labor.

It was, on motion of Dr. Ruggles:

Resolved, That the matter of compensation to Dr. Herrick be referred to a full meeting of the Board.

Carried.

Dr. Orme moved that the Secretary be requested to communicate with Dr. D. E. Salmon regarding the advisability of establishing a Board of the Bureau of Animal Industry upon this coast, for the purpose of considering the animal diseases prevalent in California, and adopting means for their suppression.

On motion of Dr. Briceland, seconded by Dr. Ruggles, the subject-matter was deferred until a fuller meeting of the Board was obtained.

In consideration of the various subjects which require the deliberation of a full Board, Dr. Briceland moved that when we adjourn we adjourn to meet in San Francisco on Monday evening at 8 o'clock, and the Secretary be requested to notify all the members of the San Francisco City Board of Health, and Health Officer, to meet with us in joint session for discussion on quarantine matters, legislation, and other subjects now pressing upon us, which was unanimously carried.

The Secretary reported progress with his Biennial Report, and expected to have it all in the printer's hands in a day or two.

On motion of Dr. Orme, the Secretary was requested to have two thousand copies of the report printed for general distribution.

There being no further business, the Board adjourned till Monday evening next.

G. G. TYRRELL, M.D.,
Secretary.

ADJOURNED MEETING OF THE STATE BOARD OF HEALTH

Was held in San Francisco, in the office of Dr. James Simpson, October 13, 1890.

Present—Dr. H. S. Orme, Dr. R. B. Cole, Dr. C. A. Ruggles, Dr. J. M. Briceland, Dr. G. G. Tyrrell, members of the State Board; Dr. Keeney, Health Officer of San Francisco, and Dr. Le Tourneau, Dr. Davidson, Dr. Fiske, Dr. McQuesten, members of the San Francisco Board of Health, by invitation.

The conjoined Boards met to discuss quarantine matters, as a precautionary measure against cholera.

Dr. Ruggles moved that the State Board should approve the action of the local Board in declaring Yokohama an infected port, and referred to Dr. Rucker, of Stockton, and others who have spoken slightly of this action, as quite underestimating its importance. This brought out a long and very interesting discussion of the subject of Asiatic cholera.

Dr. Le Tourneau said if anything, still greater precautions are necessary, as from latest accounts four fifths of the Chinese and Japanese attacked by the disease have died from it. San Francisco has never had a serious epidemic of cholera, and her location is such as not to favor the propagation of the disease. The duty of the Boards, however, extends to the country at large, as this city is the great gate through which orientals travel, and hence oriental infection would pass.

Dr. Cole said that unless something should be done the disease would make its appearance here, and having seen five thousand cases, he knows what a terrible calamity it is. The quarantine station, he said, is now so far advanced that a ship can be fumigated in from twenty-four to forty-eight hours, and the city can thus be protected. The apparatus, however, for disinfecting cargoes and baggage is not completed, but this, too, will be ready in from two to three weeks. In speaking of his experience with cholera, the doctor referred to a regiment which, under General (then Lieutenant) Grant, crossed the Isthmus of Panama in 1852, and of eight hundred soldiers but three hundred reached this city, the other five hundred having died of cholera on the way. Following in the strain of Dr. Le Tourneau, he said that the winds which blow across the San Francisco peninsula do not favor a spread of cholera, and that it thrives best in hot and damp atmospheres.

The motion of Dr. Ruggles, approving the efforts of the local Board, prevailed, and it was decided to visit the quarantine station on Sunday next with the express purpose, as Dr. Cole stated, of facilitating the completion of arrangements there, so that it may be speedily put in readiness to meet any exigency which may arrive.

The subject of the health of San Francisco was briefly discussed, and the action of the local Board, recommending the thorough flushing of

the sewers, was approved. The subject of quarantine was temporarily revived by Dr. Ruggles, and the Secretary was instructed to communicate with Surgeon-General John B. Hamilton, of Washington, asking as to the status of the quarantine station to be placed at San Diego, as provided by the Act of Congress.

Dr. H. M. Fiske then called the attention of the joint Boards to the growth of leprosy among white people in this State, and pointed out the necessity of a State hospital. He said that there were nine cases in this city, and the man who is most afflicted, a native of Massachusetts, has never been outside of the United States. Absolute isolation is essential to the prevention of a spread of the disease, and therefore a State Lazaretto, under the control of the State Board of Health, is imperative.

Other members of both Boards corroborated what Dr. Fiske said about the prevalence of leprosy.

The latter then moved that the State Board take cognizance of the need of a leper hospital, and recommended that measures be taken for introducing a bill in the Legislature, appropriating a suitable sum for the purchase of a site, and the erection of a suitable building.

Dr. Le Tourneux seconded the motion, and it was unanimously carried.

The fact that there is but one Market Inspector in this city was the next matter considered, and the risk from infected foods and tainted meats being sold and consumed was very clearly defined.

Dr. Cole then moved that a committee of five should be appointed to consider this and other matters, including the appointment of a State Veterinary Inspector. The motion was carried, and a rider, to the effect that the committee on legislation should report on October 27th, also prevailed.

President Orme then appointed the committee as follows: For the State, Drs. Simpson and Cole, and for the city and county, Drs. Fiske, Le Tourneux, and Davidson.

The visiting Board having retired, the subject of compensation to Dr. S. S. Herrick, for his labor in compiling the health laws of the State, was considered, and on motion, it was unanimously agreed to allow him the sum of \$75.

Meeting adjourned.

G. G. TYRRELL,
Secretary.

ADJOURNED MEETING OF THE STATE BOARD OF HEALTH

Was held in San Francisco October 18th, for the purpose of visiting and inspecting the new quarantine grounds and station at Angel Cove.

The following gentlemen formed the inspecting party: Drs. H. S. Orme, of Los Angeles, Charles Ruggles, of Stockton, R. Beverly Cole, of San Francisco, and G. G. Tyrrell, all of the State Board of Health; Drs. McQuesten, Fiske, Le Tourneux, and Davidson, of the San Francisco Board of Health; John Hoesch, Quarantine Officer Lawler, Health Officer Keeney, Dr. Bailhache, Dr. J. C. Tucker, of the United States Pension Board; Dr. William Martin, U. S. N.; Dr. Yeamans, City Physician; Dr. Sternberg, U. S. A., and Drs. Donnelly, Herrick, and Mackintosh.

The trip over was delightful. Arriving at the Cove the party was received by Colonel Bridges, who explained the plan of the station and escorted the visitors through the various buildings, nearly all of which are completed. At the wharf, where it is said two ocean steamers may be accommodated should occasion require, the concrete foundations are being laid on which will be placed the three large disinfecting boilers already described in the "Chronicle." The boilers are now on the wharf. The nearest building to the wharf is that known as the "barracks," where passengers of quarantined steamers will be accommodated during the disinfection of vessels and their cargoes. The house is much more comfortable than the name may imply. It has a frontage of 170 feet and a depth of 70 feet, and will be so fitted that none of the passengers who may be detained there will have cause for complaint.

Almost opposite the "barracks," on the side of the horseshoe which forms the pretty little cove, is the lazaretto where patients will be treated. It will accommodate about fifty patients. Joining it is a building in which will be located the dispensary and quarters of the nurses and attendants. Upon the hillside, some distance from the shore, are two buildings in which will be the quarters of the physicians and medical staff, the officers of the station, and the home of the Surgeon-in-Chief, who, it is said, will be Dr. Macintosh.

The visiting physicians inspected them, and expressed themselves as highly pleased with the plans of the station and the manner in which they have been carried out. They also paid particular attention to the water supply, which is obtained from a spring. The reservoir adjoining the spring holds about twenty thousand gallons. From it water is pumped to five tanks with a combined capacity of thirty-five thousand gallons. The flow from the spring is so strong and constant that the two pumps in the engine house working together for eight hours have not emptied the reservoir.

After lunching in the old ranch house on the hillside where Colonel Bridges has his quarters, the physicians discussed the station, its condition and its needs at length. On motion of Dr. Cole, it was decided to be the consensus of opinion of the gentlemen present that, taking into consideration the topography of the site and its adjacency to a swift current, the suggestion of Dr. Bailhache, to have the offal from the station carried to the sea in pipes, is the most salutary and economical.

Dr. Bailhache explained that the offal would be disinfected before it was sent into the bay. The current in Raccoon Straits, one thousand feet from the station, is one of the strongest in the bay.

It was also resolved by the visiting physicians that the station and the site were all that could be desired, and that the Government officials in charge, and Colonel Bridges, the constructing engineer, should receive the greatest approbation for their work.

Dr. Cole called attention to the danger of infection from vessels coming from Chinese ports, and moved that a presentation of that fact be made to the Federal Government, with the request that the station be completed and opened for patients as soon as possible.

The motion was carried, and Drs. Cole, Ruggles, and McQuesten were appointed a committee to memorialize the Government.

Speaking on this question, Dr. Ruggles said he was assured that President Harrison would do everything possible to advance the station, as

he knew from a conversation he had had with him that the President had the interest of the coast at heart.

It was said also that many improvements would be introduced at the station not known at others, as Surgeon-General Hamilton had declared it his intention to make the station the model one of the country.

A portion of the party went around part of the island in Colonel Bridges' steam launch, and upon their return expressed their great delight at the site and all its surroundings.

The party returned to this city at 5 o'clock. On the homeward trip Lieutenant Runcie, U. S. A., representing General Gibbons, the "McDowell's" Captain, and Messrs. Bailhache and Bridges, were again thanked for having afforded the occasion for the enjoyable excursion.

The State Board then adjourned to meet in San Francisco when called upon by the legislative committee.

G. G. TYRRELL,
Secretary.

ADJOURNED MEETING OF THE STATE BOARD OF HEALTH

Was held in San Francisco December 29, 1890, to take into consideration, with the Legislative Committee of the San Francisco City Board of Health, what legal changes are necessary in our present health laws, and what additions thereto are absolutely necessary for the welfare of the State.

Present—Drs. Simpson, Cole, Ruggles, and Tyrrell, of the State Board, Drs. Le Tourneux and Davidson, of the City Board of Health, and Dr. S. S. Herrick, of San Francisco, by invitation.

Dr. Orme, the President, being unavoidably absent, Dr. R. Beverly Cole was unanimously voted to the Chair.

Dr. Tyrrell stated that some of our health laws imperatively demanded amendment to make them effective, and proposed submitting to the Legislature an Act to amend Section 3064 of the Political Code, whereby the words "eighteen hundred and eighty-seven" will be changed to "eighteen hundred and ninety-one," and thus remove the objection to it which now renders it legally inoperative. He also proposed to reintroduce the Act amending Sections 3077, 3078, 3080, and 3082 of the Political Code giving compensation for the filing of deaths, births, and marriages; and also an amendment to Sections 337 and 378 of the Penal Code, substituting the word "knowingly" for "willfully." These are all the amendments he proposed asking for.

It was also proposed to introduce an Act appointing a State Sanitary Inspector; also an Act appointing a State Veterinary Surgeon; also an Act to establish a State Hospital for Lepers; also an Act to replenish our Contagious Disease Fund; also to place \$5,000 on the apportionment bill for the State Analyst, and to amend the Act establishing a State Board of Health by amending a section giving its members \$10 a day, in addition to their traveling expenses, when on duty for the State.

Dr. S. S. Herrick read a communication from Dr. H. S. Orme, in which the following amendments were considered: Chapter 24, 1889, relative to vaccination, has no penal clause. Section 377, Penal Code, was amended in 1889, so as to restrict its application to violation of the Act relating to registration of deaths and disposal of dead bodies. Its full

application should be restored, so as to reach violations of all sanitary laws.

The execution of the Act of 1889, relating to the sanitary condition of factories, shops, etc., was placed in the hands of the Commissioner of Bureau of Labor Statistics, but no extra funds or employes were provided for. Its execution should be vested in local health authorities.

A new section (2984) should be added to the Political Code, providing for a State Sanitary Inspector; also, another (2985) providing for a State Veterinarian.

A general Act is needed empowering all cities having Boards of Health or Health Officers, and a population of not less than five thousand, to have one Health Inspector; cities having a population of not less than thirty thousand, to have one Health Inspector and one Market Inspector; cities of more than thirty thousand, to have one Health Inspector for every thirty thousand inhabitants, and one for the residual fraction above one third of that number, and one Market Inspector for every sixty thousand inhabitants, and one for the residual fraction above one third of said number.

An Act is needed to establish a State Leper Hospital; the site to be selected and buildings erected under the advice and supervision of the State Board of Health; the Medical Officer and employes to be chosen by said Board; annual expenses to be provided by the State, but every county to be charged pro rata with the expenses of patients sent to the hospital.

These several suggestions having been discussed by the members present, it was agreed, at the suggestion of Dr. Ruggles, that a penal clause be added to the Vaccination Act, by making a disregard of the law sufficient cause for deprivation of the school appropriation for that district so long as disobedience is continued.

It was resolved to allow the sanitary condition of factories to continue in the hands of the Labor Bureau until a more convenient season for taking it up.

It was also agreed that the matter of a State Veterinarian be referred to the Veterinary Association for action.

The Sanitary Inspector was agreed upon. The Inspector bill was modified so as to omit the clause of five thousand, and commence with cities of ten thousand or more inhabitants. It was also proposed that we ask for \$10,000 for a leper hospital.

Dr. Cole thought we had no right to ask for \$5,000 for the State Analyst, as the mineral waters of the State belong to individuals, and the State has no authority to use its funds for the benefit of individual owners.

After some further discussion on ways and means, the meeting, on motion, adjourned.

G. G. TYRRELL,
Secretary.

THE REGULAR QUARTERLY MEETING OF THE STATE BOARD OF HEALTH

Was held in the office of the Secretary, January 13, 1891, at the usual hour. Present—Dr. H. S. Orme, President; G. G. Tyrrell, Secretary; Dr. A. Briceland, Dr. C. A. Ruggles, Dr. W. R. Cluness, members, and Dr. J. H. Herrick, by invitation.

The minutes of the last meeting having been read and approved, the Secretary read a telegram from Surgeon-General Hamilton, relating to the quarantine in San Diego, as follows:

WASHINGTON, D. C., October 15, 1890.

Dr. G. G. TYRRELL, Secretary State Board of Health, Sacramento, Cal.:

Time thus far has been consumed in getting site, several having been selected and possession refused. Good site finally purchased, and plans for buildings are now in preparation.

J. B. HAMILTON,
Surgeon-General.

A reply was sent by Dr. C. A. Ruggles to a communication addressed to Surgeon-General Hamilton, by the committee appointed for that purpose, at the meeting of the conjoined Boards of Health, held in San Francisco, October 18th, relative to finishing the quarantine station at Hospital Cove, Angel Island, stating:

"That an additional appropriation had been asked of Congress for the building of the boarding steamer, and the completion of the building omitted from the plan on account of lack of appropriations."

It was moved by Dr. Ruggles that the subscription of the Board to "Sanitary Record" be renewed and the bill paid. It was also moved that the bill for subscription for "Sanitarian" be paid, and our subscription for one copy be renewed.

A communication from the Lorin Sanitary District, and the action of the Secretary regarding the disposition of the matter, was approved.

A communication from E. O'Brien, Health Officer at Merced, stating that a leper was discovered on Merced River and asking how he could dispose of him. The Secretary replied that the county would have to care for him, as the State had made no provisions for such cases, as the county was usually responsible for his isolation and safe keeping.

On motion, the reply of the Secretary was indorsed and his action approved.

On motion of Dr. J. M. Briceland, seconded by Dr. Cluness, the Secretary was instructed to draw up a bill to procure a fund for prevention of contagious and infectious diseases, which is necessary for our protection.

On motion of Dr. Briceland, seconded by Dr. Cluness, the Secretary was instructed to prepare a bill for the erection of a leper hospital and the purchase of a site.

On motion of Dr. Cluness, the Secretary was instructed to urge the passage of the bill appointing a State Sanitary Inspector.

Dr. Cluness moved that an Act be prepared to amend Section 378 of the Penal Code, by inserting the word "knowingly" for "willfully," which was carried. Also, to amend Section 3064 and Section 3077 of the Political Code, which were carried.

The Secretary was also instructed to amend the Act organizing a State Board of Health, by adding a section giving the members \$10 a day while engaged in the duties of the Board.

On motion of Dr. Orme (Cluness in the chair), seconded by Dr. Briceland, the following resolution was adopted:

Resolved, That the Secretary of this Board be instructed to communicate with Hon. D. E. Salmon, Chief of United States Bureau of Animal Industry, and with our Senators and Representatives in Congress, to the end that a branch of said Bureau may be established in California, inasmuch as no such branch now exists west of the Rocky Mountains.

Which was unanimously carried.

There being no further business, on motion of Dr. Briceland, the meeting adjourned.

G. G. TYRRELL,
Secretary.

THE REGULAR QUARTERLY MEETING OF THE STATE BOARD OF HEALTH

Was held in the office of the Secretary on April 20, 1891.

Present—Dr. W. R. Cluness, Dr. C. A. Ruggles, Dr. J. M. Briceland, Dr. G. G. Tyrrell, Dr. H. S. Orme, Dr. R. B. Cole; and by invitation, Dr. J. R. Laine, Dr. P. C. Remondino, Dr. C. W. Nutting, and Dr. W. G. Cochran.

The minutes of the last meeting having been read and approved, the Secretary read the following communication from the Bureau of Animal Industry in reply to the communication requesting the organization of a branch of the Bureau west of the Rocky Mountains:

WASHINGTON, D. C., March 11, 1891,

Dr. G. G. TYRRELL, Secretary State Board of Health, Sacramento, Cal.:

DEAR SIR: I am in receipt of your favor of the 2d instant, transmitting resolution adopted by your Board, requesting you to communicate with me with the object of having a branch of this Bureau established in California. In reference to this I would say that the work of this Bureau is carried on by stationing inspectors or agents in localities where any line of work which we have in charge needs to be carried on. As we have a number of different lines of work, such as the scientific investigation of diseases, the eradication of pleuro-pneumonia, the inspection of animals and meats for export, etc., I would be glad to hear further from you as to the line of work that your Board thinks the Bureau should undertake in California.

Very respectfully,

D. E. SALMON,
Chief of Bureau.

It was moved that the communication be received and the matter be referred to the incoming Board. Carried.

The following communication was read by the Secretary and ordered placed on file:

OFFICE OF THE IOWA STATE BOARD OF HEALTH, }
DES MOINES, April 1, 1891. }

To all Undertakers and Railroad Companies:

By reason of the frequent shipment of the bodies of persons dead from diphtheria, under the statement that the cause of death was "heart failure," or some other sequelæ of that disease, and non-contagious, thereby greatly endangering human life, at a meeting of the Iowa State Board of Health, held Thursday, November 20, 1890, it was ordered that the transportation of the bodies of persons dead from diphtheria be prohibited in this State, and that the word "diphtheria" be stricken out from Rule 2, of the Rules and Regulations for the Transportation of Corpses, and that the word "diphtheria" be inserted in Rule 1, after the word "smallpox." Undertakers, baggagemen, and railroad station agents are hereby notified to govern themselves accordingly. The following resolution was also adopted:

"Resolved, That a return of a death made by a physician giving 'heart failure' as a cause of death, shall not be deemed a sufficient return, and such must be returned to the physician who made it for the proper correction and definition."

J. F. KENNEDY, M.D.,
Secretary.

Dr. R. Beverly Cole then moved that the above communication from the State Board of Health of Iowa be indorsed, and trust that the incoming Board will take such steps in respect to the resolution contained therein as will do away with the vagueness of certificates of death stat-

ing the cause of death to be "heart failure," "dropsy," "fever," "child-birth," "colds," etc., which was unanimously carried.

An invitation to appoint delegates to the National Conference of State Boards of Health was received and referred to the new Board for action. Same disposition was made of invitation to attend International Congress of Hygiene.

The attention of the Board having been called to a quack advertisement, as follows:

The State Board of Health, appointed by the Governor of California (and composed of physicians) to see that none practice medicine or surgery in this State without they are perfectly qualified to do so, have examined the diplomas of the New York specialists and declare them correct, and authorize them to practice medicine and surgery in California, and they hold certificates from the State Board of Health of California to that effect.

It was moved by Dr. Cluness, and seconded by Dr. Cole, and carried, that the Secretary be instructed to contradict, by telegraph to the San Diego "Union," the above untruth.

The Secretary then read the following telegram, which, having been signed by each member of the Board, was at once dispatched to San Diego, the present quarters of the "New York Specialists:"

OFFICE STATE BOARD OF HEALTH.

To San Diego "Union:"

The statement advertised by parties calling themselves "The New York Specialists," that they hold certificates from the State Board of Health of California, entitling them to practice medicine and surgery in the State, is absolutely false, malicious, and calculated to deceive the public.

The following communication from the American Public Health Association was ordered received and placed on file:

To G. G. TYRRELL, Secretary State Board of Health, Sacramento, Cal.:

DEAR SIR: At the eighteenth annual meeting of the American Public Health Association, held at Charleston, S. C., December 16-19, 1890, the following vote was passed: Voted, to instruct the Secretary to advise each State Board of Health which has not already done so, to issue directions to all local Boards of Health and Health Officers in reference to the preparation and proper use of disinfectants, basing such directions upon the reports of the Committee on Disinfectants of the Association.

Respectfully submitted.

IRVING A. WATSON,
Secretary.

The following gentlemen having been appointed by Governor Markham as members of the State Board of Health, presented their credentials, which were received, and the members welcomed to their seats by President H. S. Orme: Dr. C. W. Nutting, of Etna Mills, vice Briceland, term expired; Dr. P. C. Remondino, of San Diego, vice J. M. Simpson, term expired; Dr. W. R. Cluness, vice self, unexpired term; Dr. C. A. Ruggles, vice self, term expired; Dr. J. R. Laine, vice Tyrrell, term expired; Dr. W. G. Cochran, of Los Angeles, vice R. B. Cole, term expired.

It was moved and seconded that Dr. Tyrrell be requested to act as Secretary during the organization of the new Board. Carried.

Nominations for President being in order, Dr. Ruggles offered the name of W. G. Cochran, of Los Angeles, for that position. Nominations were closed and ballot ordered, six votes being cast. Dr. Cochran received five, and Dr. Ruggles one. Dr. Cochran, having received a majority of the votes cast, was declared duly elected President.

Nominations for Secretary being in order, Dr. Cluness was placed in

nomination by Dr. C. W. Nutting. Dr. J. R. Laine was nominated by Dr. P. C. Remondino. Ballot being ordered, six votes were cast. Dr. Cluness received one vote, and Dr. Laine received five votes. Dr. Laine having received a majority of the votes cast, was declared duly elected to the office of Secretary of the Board.

G. G. TYRRELL, M.D.,
Secretary.

THE REGULAR MEETING OF THE STATE BOARD OF HEALTH

Was held at 10 P. M., April 20, 1891.

There were present C. A. Ruggles, of Stockton; W. G. Cochran, of Los Angeles; P. C. Remondino, of San Diego; C. W. Nutting, of Etna Mills, and W. R. Cluness and J. R. Laine, of Sacramento.

The meeting was called to order by Dr. C. A. Ruggles, who appointed Dr. G. G. Tyrrell, the late Secretary, to act as Temporary Secretary.

The first business in order being the election of a President, Dr. C. A. Ruggles placed Dr. W. G. Cochran in nomination, and he was unanimously elected.

Upon taking the chair, Dr. Cochran declared the next business in order to be the election of a Permanent Secretary. Dr. C. W. Nutting placed Dr. W. R. Cluness in nomination, and Dr. P. C. Remondino nominated Dr. J. R. Laine. A canvass of the ballots showed six votes to have been cast, one of which was in favor of Dr. Cluness and five in favor of Dr. J. R. Laine. The President thereupon declared Dr. Laine duly elected Permanent Secretary of the State Board of Health.

Dr. Ruggles then moved that the Secretary be instructed to obtain a correct census report of cities and towns furnishing mortuary reports, and to compute the percentage of deaths from such corrected reports. The motion was adopted, as was also the motion by Dr. Ruggles to instruct the Secretary to announce to local Boards of Health that reports giving heart failure, dropsy, colds, childbirth, and such like vague terms as causes of death in their monthly mortuary tables, will not be regarded as sufficient nor satisfactory; and that a recommendation be made that specific terms, such as are recognized in medical nomenclature, be invariably employed to designate the cause of death.

Dr. Ruggles gave notice that he would bring up Section 2979 of the Political Code for discussion at the next meeting, so as to get a better understanding as to the legal rights and status of the State Board of Health with reference to the sanitary requirements of the various public institutions receiving State aid and support.

The Board then adjourned, to meet at the office of the Secretary at 9 A. M., April 22d.

J. R. LAINE,
Secretary.

AN ADJOURNED MEETING OF THE STATE BOARD OF HEALTH

Was held at 9 A. M., April 22d, at the office of the Secretary, there being present Drs. Cochran, Remondino, Nutting, Ruggles, and Laine.

The minutes of the previous meeting were read and approved. It was

ordered that the codified laws of California relating to sanitary affairs should be obtained from the State Printing Office and properly distributed.

The Board, after a further discussion of matters relating to perfecting its efficiency, adjourned until the quarterly meeting in July.

J. R. LAINE,
Secretary.

THE REGULAR QUARTERLY MEETING OF THE STATE BOARD OF HEALTH

Was held at the office of the Secretary on July 6, 1891, at 8 P. M.

There were present Drs. Cochran, Ruggles, and Laine. Communications from Drs. Remondino and Nutting were read, giving reasons for their absence.

The minutes of the last meeting were read and approved.

The resignation of Dr. Julius Rosenstirn was read and ordered placed on file.

Dr. P. C. Remondino was duly elected a delegate to represent the State Board of Health at the meeting of the American Public Health Association to be held at Kansas City, Mo., in October, 1891.

There was a lengthy and earnest discussion of various matters relating to public sanitation, after which the Board adjourned, to meet at the call of the President.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR SESSION

At 8 P. M., October 19, 1891.

Present—Drs. W. G. Cochran, C. W. Nutting, C. A. Ruggles, and J. R. Laine.

The minutes of the previous meeting were read and approved.

The Secretary, Dr. J. R. Laine, reported having made an official visit to the town of Willows, on account of an outbreak of diphtheria. This action was approved.

The matter of a change in blanks for reporting deaths and diseases was, after a lengthy discussion, left to the discretion of the Secretary.

The Board then resolved to adjourn until the next day, in order to make a sanitary survey of the Folsom State Prison, the Stockton and Napa Asylums for the Insane, the San Quentin State Prison, the State University, and the Berkeley Asylum for the Deaf, Dumb, and Blind, and to adjourn from day to day until the surveys are finished.

FOLSOM PRISON.

The State Board of Health, consisting of Drs. Cochran, Nutting, Ruggles, and Laine, met at the Folsom State Prison on October 20, 1891, to inquire into its sanitary condition.

The condition of the convicts and the ventilation of the cells and buildings were carefully inspected and found to be good. The food supplies, including vegetables and bread, were of good quality, the food well cooked, and the dining-room and kitchen were in a creditable condition.

The prison drainage is of an ancient pattern, being a sewer running the length of the building, having wooden blocks opening in the middle of the wards, with no ventilation except into the buildings.

All liquid and solid refuse passes into this drain, which discharges its contents about three hundred feet in a northerly direction into the American River.

Warden Aull explained that he had under consideration an elaborate and well-considered plan for plumbing and draining the prison, with due provisions for ventilating the sewer outside of the buildings. The plan, as shown in a diagram submitted to the Board, is suitable, and will, when completed, free the prison from all danger from sewer gases. It is ascertained upon inquiry that, notwithstanding the imperfect system of drainage now in use, no diseases traceable to this as a cause have been noted. This is doubtless due to two facts: the perfect ventilation in the roofs of the buildings, and the rapid flow of the sewage and shortness of the sewer.

The sewer empties directly into the river, with no attempt to precipitate or detain its solid contents. This state of things, if long continued, must, in no small degree, pollute the water which is used for domestic purposes by forty thousand people within a distance of twenty miles.

In view of this condition, the following preamble and resolutions were unanimously adopted and ordered placed upon the minutes:

WHEREAS, The sewage of the Folsom State Prison flows directly into the American River twenty miles above Sacramento, which city obtains its water supply for public and domestic uses at a point immediately below the confluence of that stream with the Sacramento River; therefore, be it

Resolved, That the State Board of Health advise a discontinuance of this practice as detrimental to the public health and a violation of law; be it further

Resolved, That a recommendation be made that settling or chemical precipitation tanks be constructed at the outflow of the sewer, so that nothing but water deprived of injurious qualities shall be permitted to flow into the American River, and that the solid substances be precipitated and removed, and utilized as fertilizing material on the prison farm; and be it further

Resolved, That a copy of these resolutions be transmitted to George A. Knight, the attorney for the State Board of Health, with instructions to enforce a compliance with these recommendations.

STOCKTON INSANE ASYLUM.

The State Board of Health, consisting of Drs. Cochran, Nutting, Ruggles, and Laine, met at the Stockton Asylum for Insane on October 21, 1891.

An inspection of the food supplies showed them to be of good quality. The kitchen was well furnished, but the windows and doors were unscreened and flies swarmed in myriads.

The same condition existed with reference to the bakery and dining-room for employes and the dining-room for patients.

The food was well cooked and was served in abundance. There was ample evidence that the management is kind, humane, and in a high degree creditable. The buildings are large, airy, and generally clean. The grounds are spacious, and, except in the rear of the kitchen where rags and bits of torn sacks and other refuse lay scattered around, are well kept. What meat was found in a screen meat stall was of prime quality, but the stall, notwithstanding the screen, contained many flies.

The water-closets are in detached buildings, and great efforts have been made to overcome the fatal error of locating such an institution where there is no fall for drainage. The closets are well kept and free from injurious odors.

The system of sewerage in use entails constant supervision and labor. Soil and waste pipes convey the sewage to branch sewers, converging to the main sewer, where it flows with sluggish current to a large catch-basin eighteen feet in depth. The sewers are constructed of redwood boards, and have square man-holes at about every hundred feet. In order to keep them pervious men are daily employed in floating a bit of wood, to which is attached a cord, from one man-hole to the other next below, and then dragging that section with a bundle of sacks. The last constructed building is sewered with vitrified stone pipe, ventilated by square box man-holes. The sewage flows into the box sewer, whence it is discharged into the catch-basin, where a stationary engine pumps it into raised box flumes, which conveys it, diluted with artesian water, to adjacent vegetable gardens as combined irrigation and fertilizer. During the winter it continues its flow to a canal two miles distant, which leads to tide water.

So far no objection has been raised by neighbors to the use of sewage as fertilizing fluid. Neither need there be objection where such irrigation is sufficiently remote from habitations that it cannot offend the senses. One flume, however, carries sewage several hundred feet northerly and then westerly to within one hundred feet of the southern extremity of the building occupied by female patients, where it is used to irrigate a plat of alfalfa. Along its entire length it leaks badly, the fluid spreading out on either side of the flume, offensive to both sight and smell.

Believing that the maintenance of this raised flume and the irrigation with sewage in such proximity to the structure occupied by the female patients is, or might be, injurious, the Board unanimously adopted the following resolution:

Resolved, That the Secretary of the State Board of Health is hereby instructed to communicate with the Superintendent of the Stockton Asylum for the Insane, calling attention to an open flume carrying sewage to an alfalfa patch on the south side of the building occupied by female patients, and recommending a discontinuance of this practice and the removal of the flume; substituting therefor an iron or vitrified stone pipe sunk in the ground; and that no surface irrigation be practiced in close proximity to the buildings occupied as habitations, except with water uncontaminated with sewage.

NAPA INSANE ASYLUM.

Drs. Cochran, Nutting, Ruggles, and Laine met at the Napa Asylum for the Insane on October 22, 1891, for the purpose of making a sanitary survey.

The kitchen, dining-rooms, and bakery were in excellent condition. The food supplies were of good quality, and appeared to be served in a palatable condition and in abundance. The fresh meats are subjected to refrigeration four days before using.

The site is admirably chosen for such an institution. The architectural proportions of the building, their external beauty of design and finish, harmonize with the beautiful grounds, which are adorned with choice shrubbery, and grace the broad avenue leading to the entrance of the buildings.

The asylum is overcrowded. The system of sewers for the institution is of vitrified stone pipe, laid in the basement from each water-closet to the central sewer, which leads to an open field remote from the building.

The pipes underneath the buildings often clog and burst, requiring frequent disturbance, which, in a degree, vitiates the atmosphere of the

basement. This would not be serious, inasmuch as it is freely ventilated, were it not that the heating apparatus is situated here, and the air used for heating the building obtained from the basement, and not from where it should be—the open air.

These faults are susceptible of removal by the single expedient of constructing water-closets and lavatories in the court, separate from the main building, but communicating with them, and abandoning all the water-closets in the main buildings. This would relieve the overcrowding by one hundred persons. By taking up the sewer and soil pipes now in the basement, and extending the main sewer in the most direct line to the new outside closets on to the smokestack of the powerhouse, the sewer would be complete. The waste pipes should be provided with a catch-basin, leaving an air space. That portion of the sewer which passes underneath the building should be of iron. The basement floor should be bituminized. These improvements would relieve the plethora, purify the basement, furnish improved closets, free the dormitories from sewer gases, and put a stop to the nuisance of breaking the clogged soil and sewer pipes underneath the buildings.

The Secretary was instructed to communicate with Superintendent Gardner, embodying the views of the State Board of Health, and urging that the Board of Directors for the Napa Asylum be importuned to put in execution the recommendations therein contained with the least possible delay, so that the improvements may be completed, if possible, before the rainy season sets in.

SAN QUENTIN STATE PRISON.

The State Board of Health, consisting of Drs. Cochran, Ruggles, Nutting, and Laine, met on October 23, 1891, for the purpose of inspecting the San Quentin State Prison.

The location of the prison is well chosen for drainage and salubrity. The arrangement of the buildings and their manner of construction show that they have been erected at different periods. A painful lack of harmony prevails in the appearance of the structures.

The fall for drainage is ample, and the plumbing, though not of modern construction, is nevertheless sufficient for present uses.

A water-closet in the tailor shop directly over the bakery is in bad condition, and should be speedily overhauled. The yard closet is of primitive construction, and too deep, and the building inclosing it is too low. Both could be remodeled at a trifling expense, so as to secure increased comfort and better ventilation.

The cells were clean and well ventilated, the yards were well policed, and everything about the grounds showed careful supervision. There was some objection to the wooden pails for night use in the cells, as they absorb the contents, and notwithstanding careful rinsing, are offensive to the smell. It was the opinion of the Board that they should be replaced, when convenient, with galvanized iron vessels.

A careful inspection of the food supplies was in every way favorable. The vegetables, bread, and meat were good. The food served at mid-day was well cooked and abundant. The general dining-room is, however, too dark and damp. The kitchen, though of ample dimensions for auxiliary purposes, is totally unfit for the purpose. It is so dark that no gas light at noon of a sunny day. Light comes in from

the west side only, where the sun is shut out by a four-story building. The east wall is blank, and drips with moisture, which collects in puddles on a badly-patched cement and bituminous floor, requiring constant sweeping and mopping to keep it dry. Ventilation is altogether inadequate, and the steam from the boilers condenses on the cold walls, increasing the discomforts and dismal appearance of the place.

The kitchen should be either removed to a more suitable place, or the east wall should be uncovered and pierced with windows for light and ventilation. This can be done by bulkheading ten feet of space outside of the east wall, which can then be perforated for windows. This space should be drained by a pipe running under the kitchen floor, and the floor covered with concrete.

If, in addition to these improvements, which may be deemed all that are necessary, the high building that obscures the sun on the west side were removed, the kitchen would be in a very good condition. As it now is, it is totally unfit for the purpose which it serves, and is, moreover, a disgrace to the institution.

STATE UNIVERSITY, BERKELEY.

The State Board of Health met at Berkeley, October 24, 1891. There were present Drs. Cochran, Nutting, Ruggles, and Laine.

The State University buildings were not fully inspected, owing to lack of time. Sufficient information was, however, elicited from the Secretary of the Board of Regents to determine that a deficiency of water exists, necessitating the closing of all the water-closets adjacent to the University class-rooms during a great portion of the summer months. This condition borders on the scandalous, and amounts to a positive nuisance, which should admit of no loss of time in abating.

If the University plant is inadequate to supply the requirements of the institution, enough should be purchased from neighboring water companies to supply all needs.

It is difficult to realize how there can be a valid excuse for closing the closets of the University during term, when water is obtainable by purchase. The chief institution of learning belonging to the State should not be permitted to languish from want of water. The Board of Health is not in possession of sufficient data to determine what should be done in the premises, but it does strongly advise the procurement of an ample supply of water at any cost. It is not within the province of the Board to indicate how this should be done.

DEAF, DUMB, AND BLIND ASYLUM.

This institution was found to be in such an excellent condition as to require no extended comment. The grounds are admirably kept. The buildings are imposing and spacious, and the plumbing and drainage are of a modern and approved pattern.

The Board then adjourned until evening, when it again convened at the Palace Hotel in San Francisco, to consult with George A. Knight, the attorney for the State Board of Health.

After fully considering the work that had been done, the Secretary was instructed to communicate with the management of the different institutions visited by the Board, furnishing such recommendations as

had been made, and disclaiming all intention to pass strictures upon those in authority, or to disparage the efforts of those in charge, and expressing also a full apprehension of the many obstacles in the way of placing State institutions in an ideal condition.

The Board then adjourned until the next quarterly meeting in January, 1892.

J. R. LAINE,
Secretary.

THE REGULAR QUARTERLY MEETING OF THE STATE BOARD OF HEALTH

Was held at the office of the Secretary on January 18, 1892, at 8 P. M.

There were present Drs. Cochran, Ruggles, and Laine. Letters were read from Drs. Nutting and Remondino, stating reasons for non-attendance, and promising to be present at the next regular meeting in April.

The minutes of the last meeting were read and approved.

Communications were read from Benjamin Lee, Secretary Pennsylvania State Board of Health, which were ordered placed on file, to be answered by the Secretary at his convenience.

A letter from H. N. Rucker, Medical Superintendent of the Stockton Insane Asylum, was ordered placed on file.

The Secretary was instructed to ascertain and report at the next regular meeting what has been done toward a compliance with the recommendations made by the State Board to the different public institutions with reference to their sanitary condition.

The Board then adjourned to meet in April.

J. R. LAINE,
Secretary.

THE REGULAR QUARTERLY MEETING OF THE STATE BOARD OF HEALTH

Was held at the office of the Secretary at 8 A. M., April 18, 1892.

There were present Drs. C. A. Ruggles and J. R. Laine.

There being no quorum, the meeting adjourned to convene at the call of the President at San Francisco the next day.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR ADJOURNED SESSION

At the Palace Hotel at 9 A. M., April 19, 1892.

There were present Drs. W. G. Cochran, P. C. Remondino, W. R. Cluness, C. A. Ruggles, C. W. Nutting, and J. R. Laine.

The minutes of the previous meeting were read and approved, also those of the adjourned meeting of the 18th.

The President stated that the purpose of holding a meeting in San Francisco was to hold a conference with the San Francisco Board agreeable to a request made six months before, and to discuss matters relating to coming legislation, which should be prepared for the session of the Legislature. It was also desirable, after meeting the San Francisco Board, to visit, if possible, the quarantine station on Angel Island in

San Francisco Harbor; also the Insane Asylum at Agnews and the State Normal School at San José.

The Secretary was instructed to confer with the San Francisco Board of Health and arrange for the meeting of the two Boards, and report at 9 A. M. Wednesday, April 20th.

The Board then adjourned until the next day.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR ADJOURNED SESSION

At the Palace Hotel, at 9 A. M. April 20, 1892.

There were present Drs. Cochran, Ruggles, Nutting, Remondino, and Laine.

The Secretary reported having made all possible efforts to have an early conference with the San Francisco Board of Health, but that the earliest date obtainable was 9 A. M. April 21st, at the City Health Office, in the City Hall.

The President expressed regrets that the meeting could not be held sooner, as the hour and date fixed would not admit of the Board leaving the city to complete the sanitary survey of the State buildings until after Thursday.

The Board then adjourned to meet at the San Francisco Health Office at 9 A. M. April 21, 1892.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR ADJOURNED SESSION

At the San Francisco Health Office at 9 A. M., April 21, 1892.

There were present Drs. Cochran, Ruggles, and Laine, of the State Board, Mayor Sanderson, Drs. M. Regensburger, S. F. Long, Geo. J. Bucknall, Health Officer James Keeney, Quarantine Officer Lawler, and attachés of the local health office.

Mayor Sanderson invited the State Board to address the conference on any subject that should properly come before the joint bodies.

President Cochran stated that in addition to the natural desire to meet, officially as well as personally, the members of the local Board, there were important subjects to be considered with reference to presenting bills relating to sanitary affairs to the next Legislature. If it should be determined to attempt any advancement in sanitary legislation, the measures proposed should be well considered, and the bills prepared in advance.

Dr. C. A. Ruggles believed that the State was in need of a hospital for lepers; that as matters now stood lepers were either allowed to remain at their homes with their families, or they are maintained in county pesthouses. He favored legislation which will provide a suitable retreat for lepers, to be maintained by the State.

Dr. Regensburger also favored such a course, but would go further, by providing also an asylum for incurables of all kinds. He believed that San Francisco received an undue proportion of incurables of the indigent class, so much, in fact, as to tax seriously the capacity of available accommodations for their comfort.

On motion of Dr. Cochran, the Mayor was authorized to appoint a committee of five, three from the State Board and two from the San Francisco Board, to confer with Geo. A. Knight, the attorney for the two Boards, and prepare a bill meeting the necessities of the situation, and cause the same to be introduced in the Legislature, and to use all honorable means in furthering its passage, until it becomes a law.

The Mayor appointed Drs. Cochran, Ruggles, and Laine, of the State Board, and Regensburger and Long of the San Francisco Board, to meet at the call of the Chairman.

Dr. Regensburger introduced a resolution disapproving the custom of baring the head at funerals, and cited a number of casualties resulting from the practice during the last two winters. The resolution was adopted, and the matter was referred to the Secretary of the State Board for further action.

The State Board, accompanied by P. H. Bailhache, Surgeon Marine Hospital Service, and Dr. Lawler, Quarantine Officer, boarded the Government tug-boat at the Clay Street Wharf and steamed around Angel Island to the quarantine station, on the north side of the island, where a landing was made at the wharf.

The Board, after a view of the premises from the wharf, returned to San Francisco and adjourned until 9 A. M. the next day.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR ADJOURNED SESSION

At the Palace Hotel at 9 A. M., April 22, 1892.

Present—Drs. Cochran, Ruggles, Remondino, Nutting, and Laine.

The President stated that owing to the unexpected detention of the Board at San Francisco, it would be impossible to complete the sanitary survey of State institutions during the present session. Drs. Laine and Ruggles were thereupon instructed to visit Agnews Asylum and the San José Normal School, if possible, before the close of the fiscal year. Dr. Cochran then presented the following communication, which was read by the Secretary:

SAN FRANCISCO, April 22, 1892.

To the members of the State Board of Health:

I desire to present my resignation as President of this Board, to take effect June 30, 1892, next, the close of the fiscal year of the Board.

I ask that my resignation be accepted and my successor elected at this meeting.

There are several reasons why I resign; one of which is, I feel that being President of this Board is a compliment that should be passed around among the members; another is, the distance from Los Angeles to the place of meeting. As long as I am President I feel under the greatest obligation to attend all of the meetings of the Board, and this is at times very inconvenient.

Permit me to express to each member my gratitude and appreciation for the honor you did me in electing me your President; and more especially, for the constant and uniform courtesy at all times extended to me by each one of you.

Very respectfully,

W. G. COCHRAN.

Dr. Ruggles begged Dr. Cochran to withdraw his resignation.

Dr. Cochran replied that he could not consistently do so, inasmuch as there were others who should share the honor of being President of the Board. Upon the urgent request of Dr. Ruggles, the Board refused

to accept Dr. Cochran's resignation, but his communication was ordered spread upon the minutes of the Board.

The Board then adjourned to meet at Los Angeles in May or June, at the call of the President.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR ADJOURNED SESSION

At 9 A. M., May 16, 1892, at Los Angeles.

Present—Drs. Cochran, Remondino, Ruggles, and Laine.

A letter was read from Dr. Nutting expressing regrets at his compulsory absence.

The Board then decided to make a sanitary survey of the State Reform School at Whittier, and of the State Normal School at Los Angeles.

THE REFORM SCHOOL AT WHITTIER.

This place was found to be admirably situated for the purpose for which it is intended. The grounds are sufficiently elevated to furnish ample fall for the drainage, which is all received in one common receptacle a few hundred feet west of the main building, and strained. The solid matter is utilized on the farm as a fertilizing agent, and the water deprived of its solids is used on the farm for irrigation purposes.

The lavatories and closets were in perfect order, and there was an abundance of excellent water for all necessary purposes. The accommodations for girls were altogether inadequate, but the dormitories for boys were quite sufficient for the number there at the time. They were clean, well aired, and there was sufficient bedding of a good quality.

The food placed on the tables was of good quality, ample in quantity, and well cooked. The supplies found in the store-room were of good quality. The butter and fresh meats were sweet and fresh. The whole place had an air of neatness. The Board were deeply impressed with the observable results of the State's endeavor to care for the youths attending the school. It was at once apparent that the influences bearing upon the boys were in many ways beneficial. Their appearance, instead of being sullen and depressed, was contented and cheerful. Seen at their studies, there was little to distinguish them from classes in boys' schools in other places.

In the paint shop, shoe shop, tailor shop, blacksmith shop, cabinet shop, on the farm, and about the gardens, there was the same cheerful disposition and willingness to perform the duties assigned to each, with little or no obtrusive supervision. The boys seemed to be put on their honor in the matter of behavior and general deportment.

The afternoon drill was performed with an alert precision of movement that would excite the admiration of the most enthusiastic National Guardsman. There was a noticeable absence of any suggestion of a reformatory. No locks or bars; no guards, and none needed. The school needs but the removal of the word "Reform" in its official appellation to make it an ideal as well as a model "State School." It might, with great propriety, be called the "State School," so that when a youth returns to private life he will not be handicapped by the stigma of having been an inmate of a reformatory institution. These youths are

congregated here to be trained into American citizens, and not to be punished for delinquencies, the scope and enormity of which their immaturity does not admit of their comprehending. The offenses for which they are sent to the school are not frequently such as necessarily indicate precocious depravity, but are, with few exceptions, rather evidences of ignorance, parental neglect, and an unrestrained excess of youthful energy.

Keeping the pupils employed, and directing simultaneously the mental, moral, and physical energies, proves to be an effectual and, it is believed, a permanent corrective.

With time fully occupied with study and congenial labor, with plenty to eat, good beds, clean clothes, and frequent baths, life is brightened, with a prospect of an honorable future as intelligent citizens. There is none of the depravity and degradation that follows an association with criminals in houses of correction and penitentiaries.

The Board, therefore, in view of the good to be obtained from such a course, ventures upon the verge of its official province to recommend a careful scrutiny of the methods at Whittier, and their results, in the belief that such observation will not only inure to the benefit of the youths at that school, but that the example may lead to the establishment of another on a similar plan in the interior of the State, and more centrally situated.

It is believed that such a course would prove economical to the State. It certainly would be an enlargement in the humane treatment of unfortunate boys and girls, and would convert them into law-abiding people, when, if left to their deplorable resources, they must inevitably entail a great expense to the commonwealth in their future conviction for crime, and their maintenance as criminals.

The Board adjourned until 9 A. M. the following day.

J. R. LAINE,
Secretary.

THE STATE BOARD OF HEALTH MET IN REGULAR ADJOURNED SESSION

At 9 A. M., May 17, 1892.

Present—Drs. Cochran, Ruggles, Remondino, and Laine.

The Secretary was instructed to supply each member of the Board with the necessary postage and stationery.

The Board appointed Drs. Ruggles and Remondino a committee to inspect the County Hospital at San Diego. A visit was then made to the State Normal School at Los Angeles, where the sanitary condition was found to be unexceptionable.

Before adjourning the Secretary reported having caused to be printed two circulars, in a "Preventive Disease" series, one of which is addressed to the clerical profession, treating on the "Dangers of Public Funerals of those who have died from Contagious and Infectious Diseases," and another addressed to the clerical profession and officers of secret orders and beneficiary societies, on the "Dangers from the Removal of the Hat at Funerals."

The Board then adjourned until the next regular meeting, or to meet at the call of the President.

J. R. LAINE,
Secretary.

REPORT OF THE SECRETARY.

To the State Board of Health:

GENTLEMEN: The system of public hygiene in California, which comes under the police power of the State, is such that the executive administration is everywhere imposed upon the local Boards.

Sanitation, in its modern sense, is, in obedience to natural laws, a product of advanced civilization. Like civilization, it is a development of man's resources, and is, moreover, a true index of his ability to exist. A recognition of the necessity of obedience to rules that by common consent are termed "sanitary" and "hygienic," has led to the enactment of public health laws in all civilized countries. But it was reserved for the present generation to develop it to the prominence which it has now reached. By virtue of social and political organization there becomes vested in every nation, in every State, and, by delegation, to every municipality, a power to defend itself against disorder, indecency, disease, and discomfort. From its very nature such a power is incapable of precise definition or exact limitation. The police power of the State extends to all matters affecting public health and the public morals. It is not restricted to a narrow limit, but extends over a wide domain of social life. It has authority to assert that individual convenience must often yield to public convenience, and that individual profit must often be subordinated to the public good, and individual notions of what is decent and proper shall give way before the general opinion as to what is unbecoming. It emphasizes, in terms that cannot be misunderstood, that all property, of whatever nature, shall only be used by its owner in such a way as not to injure his neighbor. Not only is its exercise to be for the safety of life and property, but also in legislative discretion it must be applied to the proper rules of life, so that the good order, health, and morals of the community may be protected and lifted to a higher plane. So thoroughly is this power of the very essence of all social order, that it cannot be evaded, resigned, or relinquished. The authorities cannot give up definitively this police power. It inheres in the National Government for national purposes, in the State Government for State purposes, and when delegated to county, city, or town, for local purposes.

It might seem that a vigorous exercise of this power might result in an infringement of personal liberty; but the individual liberty which is being evolved in our history, and whose perfection must be the ideal of every lover of humanity, is a harmony between the volition of the intelligent citizen and the needful requirements of organized society. When a law satisfies the educated desires of those who obey it, there can be no infringement of individual liberty. But there are times when the strong arm of force must be invoked for the protection of society. There is sometimes found a vested interest in nuisances. The regulation of the sale of intoxicating liquors, the suppression of gambling, the establishing of quarantines, the isolation of infected persons, the removal of

slaughter-houses from within the limits of towns and cities, the regulation of building so as to conform with plumbing and fire laws, the removal of cemeteries from crowded towns, the construction of sewers and drains for homes at the expense of the owners, are all in the direction of public health and public morals, and should be urged and insisted upon, not only by the citizen, but by public opinion, pulpit, and press, aided by the constabulary force of the State.

LOCAL SANITARY REGULATION.

The larger cities of California have for many years enacted by ordinance laws for the regulation of their local sanitary affairs, aiming to control and prevent the most common and unwholesome nuisances, such as relate to drainage, accumulated filth, and the defilement of water supplies. They have also attempted, with varying success, to make compulsory the notification of infectious and contagious diseases; also, the reporting of births.

The smaller towns, while often manifesting the deepest interest in local affairs, do not frame their ordinances suitable to their local needs, or fail to make them effective by adoption by the Town Trustees or County Supervisors. The communications from correspondents indicate, however, a commendable willingness on the part of citizens generally to aid the Health Officers and Inspectors in every way in their power. Very few recalcitrants have been reported.

Of all the aids to good hygienic results which Boards of Health employ, there is none which exceeds in value that of an efficient Health Officer or Sanitary Inspector. Boards of Health are divided into two classes. The same may be said of nations, political parties, and churches. One will be progressive and active in ferreting out all suggestions of conditions prejudicial to public health. The other will never voluntarily take cognizance of any unsanitary conditions. They feel it their duty to take no action until the danger is brought to their knowledge by a formal complaint of other parties. However dignified this conception of the true functions of a local Board of Health may be, it is far from a conformity with the practical sentiments of the age in which we live.

There have been frequent demands for the "sanitary laws" of the State by the local Boards. The Codes are rarely a part of a physician's library, and the Health Officer or Secretary of a Board often finds it necessary to consult an attorney to ascertain the scope of his duties. The attorney demands a fee. The physician acting as Health Officer is perhaps receiving a nominal salary of \$10 per annum for services which under other circumstances he would not perform at any price. The Trustees will not pay the lawyer, so the Secretary of the State Board is appealed to. He can only inform his correspondent as to the page and section of the Codes or Statutes that relate to his duties as to the subject-matter, but rarely takes the time to write out the sections of the Codes.

In view of the urgent demands for the State laws on sanitary matters, by the correspondents of the State Board, it is deemed expedient to cause them to be printed as a part of this Biennial Report. While it will not be as interesting reading to many as papers and reports on sanitary subjects, yet it is believed that the publication of the laws relating to

public health will be more conducive to the organization and perfection of the health machinery of the State than the publication of any ordinary treatise.

There is in course of preparation a code of sanitary regulations to be issued by the Board, which will be for the instruction of local Boards. It is intended merely as a suggestive Code or outline for their requirements, to be used as a basis for their official action in framing their ordinances.

There is a singular difference in localities and communities with reference to their estimate of any kind of sanitary regulation. Take Redwood City, the county seat of San Mateo County, for example. Redwood City has about two thousand five hundred people, yet it has no Board of Health, and the District Attorney, though an estimable man and an able lawyer, is appointed Health Officer. When urged to send his monthly mortality report before the 10th of each month, he replied that he did not get them in time to enable him to do so; and Redwood City is excluded from the monthly reports of the State Board, because the lawyer Health Officer will not do what the medical Health Officer does—go to the undertakers and Superintendents of cemeteries and make up his report. Redwood City has the usual average of diseases and deaths as shown by the quarterly reports of the County Recorder, so that unusual salubrity of location cannot be advanced as an excuse for not having a Board of Health. It is mentioned merely as an example of unprogressive spirit, shiftlessness, and sanitary unthrift.

MORTUARY STATISTICS.

[For the fiscal year from June 30, 1890, to June 30, 1891.]

In making up the mortuary report for the fiscal year from June 30, 1890, to June 30, 1891, no record of the deaths that occurred during the month of March is included. It has since been found impossible to obtain the data necessary to make up the statistics of that month, which preceded the incumbency of the present Secretary.

The total number of deaths from all causes during the year was 12,820. Estimating the population of California to be 1,250,000, it would make the death rate 12.24 per thousand of the population.

Smallpox.

There were but 4 deaths from smallpox during the year. This disease prevailed to a moderate extent in remote portions of the State, but in every instance it was easily controlled and finally stamped out.

Measles.

There were but 26 deaths due to measles, 8 having occurred in May, 1891, and 5 in June of the same year. The preceding January of the same year claimed 5 deaths from the same cause.

Scarlatina.

There were 39 deaths due to scarlatina during the year, May, 1891, having furnished 9 of the deaths. The remaining deaths were distributed quite evenly throughout the year.

Diphtheria.

There were 488 deaths due to diphtheria, without estimating what occurred in March. As there were 60 deaths in February, and 56 deaths in April, it is fair to presume that there were 50 during the month of March. Adding this number to 488 makes a total of 538 for the year. This would correspond to 4.30 per thousand of population.

Influenza.

Influenza is credited with 50 deaths during the year, the fatality having begun in November. In December, 1890, there were 2 deaths; in January, 1891, there was 1; in February, 1891, there were 8; in April, 17; in May, 13; and in June, there were 7.

Whooping-Cough.

Whooping-cough caused 35 deaths during the year, 17 of which occurred in May during the prevalence of la grippe.

Typhoid Fever.

There were 334 deaths due to typhoid fever; 47 of these are classed on the table under the head of typho-malarial fevers. As the term "typho-malarial" would indicate the specific infection of typhoid fever, it must to all intents and purposes be considered identical with that disease. Inasmuch as the malarial complication is susceptible to remedy, while typhoid is not, it should be classed as typhoid. Its prevalence was quite evenly distributed throughout the year.

Cerebro-Spinal Fever.

Cerebro-spinal fever caused 73 deaths.

Respiratory Diseases.

There were 1,818 deaths due to consumption. Pneumonia caused 1,135. Pleurisy, 29. Bronchitis, 323. Other diseases of the respiratory organs caused 187 deaths.

This would show 3,492 deaths from chronic and acute respiratory diseases during the year. The greatest fatality was from November, 1890, to June, 1891.

Alcoholism.

One hundred and twenty-one deaths are credited to alcoholism, direct or remote, including delirium tremens.

MORTUARY STATISTICS.

[For the fiscal year from June 30, 1891, to June 30, 1892.]

The total number of deaths from all causes during the year were 15,847, making a death rate of 12.67 per thousand, estimating the population at 1,250,000.

Smallpox.

There were no deaths reported from smallpox during the entire year. Very few cases were reported to have prevailed except at the quarantine station on Angel Island, in San Francisco harbor, where it was so completely controlled as to be effectually stamped out.

Measles.

Deaths from measles numbered 84, distributed quite evenly throughout the year, is the sum of fatalities from that disease.

Scarlatina.

There were 103 deaths reported from scarlatina, the greatest fatalities beginning in December, 1891, when there were 15 deaths. There were also 15 deaths in January, 1892; 14 in February; 6 in March; 15 in April, and 14 in May.

Diphtheria.

This disease, as usual, shows a frightful mortality of 484, to which might be added 185 from croup, which makes 669 deaths due to this terrible disease. The fatalities during the different months of the year have varied so little that it is unnecessary to specify them, especially as a glance at the mortuary tables herewith appended will supply the information.

Epidemic Influenza—La Grippe.

During the year there were 223 deaths attributed directly to la grippe. Five occurred in July; 2 in August; 3 in September; 2 in October; 4 in November; 51 in December, 1891; 107 in January; 27 in February; 13 in March; 5 in April; 3 in May, and 1 in June, 1892.

California was visited by an epidemic of influenza during the winter of 1890-91, lasting until the following June. Its onset was simultaneous with reports of the disease in remote parts of the continent. There is reason to believe that it affected those where it could not have been conveyed by travel or other means of conveying the ordinary forms of contagious diseases. It prevailed in the Sacramento and San Joaquin Valleys, the foothill counties at an elevation of from one to four thousand feet, the vicinity of Truckee at an elevation of six thousand feet, and the foggy seacoast at the same time and in precisely the same manner. The dry region of the Colorado Desert at Needles enjoyed no immunity; in fact, suffered more in proportion to numbers than the cities and towns of Southern California.

There was another visitation during last winter, very much intensified, but in the main presenting the same characteristics with corresponding complications and sequelæ. Many who had the disease the first winter were again attacked, and others were afflicted with two and three attacks during the second winter. But few deaths were credited to it directly during the first winter; but during the second, when a familiarity with its clinical features had been very generally established, many deaths were reported, not only from the immediate effects of the epidemic, but more from its results and sequels.

This was especially observable in a great increase of diseases of the lungs, notably pneumonia and bronchitis.

As might be expected, the weak and sickly when attacked were the first to succumb; but these were not among the first to take the disease, and while not enjoying an immunity from it, showed no more susceptibility than the robust. The first to show its influence were those habitually exposed to out-door life. All observers agree that when one case appeared in a house nearly every member of the household had it thereafter. Those afflicted with phthisis-pulmonaris were affected in a marked degree when attacked, but it showed no marked predilection for this class, and many pronounced consumptives made good recoveries from la grippe, without showing any deviation in the course of the original disease. No attempt will be made to give the number of fatalities of the epidemic of the last two years. A perusal of the subjoined monthly circular of the State Board of Health will give a general idea of the deaths due to the immediate effects of the malady, and the more remote effects, which it has become the custom among insurance companies to sum up as "results of la grippe." These results have been of a Protean character in California. Pneumonia, bronchitis, catarrhal pneumonia, coryza, with depression and great anxiety, severe cough, dyspnoea, extreme soreness in the chest, pain in the back and limbs, stitches in the side, headache, diarrhoea, tonsillitis, pharyngitis, earache, dizziness, and mild delirium were some of the effects of the seizures. A proneness to pneumonia, with a tendency to relapse, was the condition of most patients after an attack. The strong and robust showed no exception to this tendency.

All were left with a sense of depression and lessened vitality. The force of the seizure was spent, in many cases, on the nervous system. Many of this class of cases have not yet recovered, but have progressively declined, losing flesh, and presenting the general symptoms of breaking down of the constitution.

It follows that a disease affecting so profoundly not only the nervous system, but nearly all the organs in the body separately or generally, as a catarrhal fever, must of necessity produce a violent shock on the great number of people who are always living on the brink of the grave, whose diseased hearts or brains, or lungs, or shattered nervous systems, or diseased kidneys have placed them in such a condition that the perturbing influence and sharp fever of la grippe is sufficient to make them easy victims. The same may be said of all epidemics. If a man afflicted with chronic nephritis takes la grippe, and dies during any of its complications, la grippe will be accredited with the cause, and not Bright's disease.

It is not intended to give the history of former epidemics of this disease, nor to descant on its clinical history and exciting cause. These have been pretty generally gone over during the two years that this unwelcome guest has been among us. It will be seen from the above that there has been a sameness of symptoms and general history with all accounts of its manifestations in other countries and other States. To present an opportunity of comparing the prominent features of general symptoms is all that this is intended to comprehend.

The facts in reference to the spread of epidemics of influenza, and the course of the disease in infected localities, are comprehensible upon no other theory than that of a specific infecting principle as its exciting cause. That this principle is carried over vast expanses in an incredible short space of time, producing its specific effects which we call

influenza or la grippe, over vast areas of land and sea without communication from man to man, is believed to be fully established. That when one person in a household is affected with it the infection is sufficient to produce the disease in the others, is accepted by many, and general observation tends in that direction. The medium of its communication is the atmosphere, and if a germ, it must possess the power of reproducing itself in that medium; otherwise, it would become lost by dispersion in traversing distances measured by oceans and continents.

Whooping-Cough.

Whooping-cough is credited with 94 deaths, being nearly three times the number during the previous year. This must be attributed, to a considerable extent, to prevalence of la grippe, which would necessarily increase the fatality of this disease.

Typhoid Fever.

There were 340 deaths from typhoid fever, to which must be added 22 which appear on the tables attributed to typho-malarial fever, making a total of 362 deaths from this cause. Like the preceding year, these fatalities were quite evenly distributed throughout the twelve months.

Cerebro-Spinal Fever.

There were 74 deaths from cerebro-spinal fever during the year, being one more than during the preceding year.

Pulmonary Consumption.

This disease, as usual, takes the lead in the cause of fatality, and heads the list with 2,304 deaths, being a considerable increase over the previous year, when there were 1,818 deaths. A glance at the tables will show that the highest mortality occurred during the height of the epidemic of la grippe.

Pneumonia.

There were 1,415 deaths from pneumonia, as against 1,135 during the previous year. Here again a glance at the tables will indicate that the highest number of fatalities occurred during the month when the highest number of fatalities from la grippe occurred, the disease having jumped from 94 in November to 315 in January.

A corresponding increase is shown in bronchitis and congestion of the lungs. Those months which show the largest number of deaths from la grippe show the largest number of deaths from chronic and acute pulmonary diseases.

Pleurisy.

Pleurisy is credited with but 24 deaths.

Bronchitis.

There were 461 deaths credited to bronchitis, and 139 to congestion of the lungs, while 164 deaths come under the head of other diseases of the respiratory organs. This would show chronic and acute diseases

of the respiratory organs to have caused 4,343 deaths during the fiscal year, which is an increase over the former year of 851.

Alcoholism.

Alcoholism, directly or remote, including delirium tremens, is credited with 192 deaths.

J. R. LAINE, M.D.,
Secretary State Board of Health.

MONTHLY REVIEW OF DEATHS AND PREVAILING DISEASES.

Reported to the State Board of Health from July, 1890, to July, 1892.

[Reprinted from monthly circular of State Board of Health.]

JULY, 1890.

Mortality reports received from 104 cities and towns throughout the State, containing an estimated population of 850,440, give the number of decedents as 1,132, which is a monthly percentage of 1.33 per 1,000, or an annual mortality of 15.96, which is an increased death rate over that of last month. This may in a great measure be attributed to the increased mortality from stomach and bowel disorders, especially cholera infantum among children. We find that the increased temperature during the month was a prominent factor in the causation of these diseases, and no doubt contributed greatly to their fatality.

CONSUMPTION caused nearly as large a mortality as last month, 150 deaths being attributed to it.

PNEUMONIA seemed to be favorably influenced by the warm weather, there being but 50 deaths recorded from it. Of these 34 occurred in San Francisco, the remainder in isolated cases throughout the State.

BRONCHITIS.—Twenty-one cases died from this disease, which is a marked decrease from last report.

CONGESTION OF THE LUNGS was reported fatal in 12 instances.

WHOOPIING-COUGH caused 3 deaths.

DIPHTHERIA AND CROUP, collectively, were the cause of 24 deaths, which is a large decrease from the number reported last month. Of the 17 caused by diphtheria, 10 occurred in San Francisco, 3 in Sacramento, 2 in Los Angeles, and 1 each in Haywards and Anaheim.

CHOLERA INFANTUM is reported to have caused 82 deaths, which is the largest mortality in any one month this year. The deaths from this cause in June numbered 51 and in May only 6, showing conclusively how much the disorder is influenced by increased temperature.

DIARRHŒA AND DYSENTERY caused 31 deaths, which is a very marked increase indeed, nearly double the mortality of the preceding month.

SCARLET FEVER was fatal in 2 instances, one of which occurred in San Francisco and 1 in Sacramento.

MEASLES was fatal in 3 instances, 1 in San Francisco, 1 in Downey, and 1 in Los Angeles.

TYPHO-MALARIAL FEVER is credited with causing 1 death in Mendocino.

TYPHOID FEVER is reported to have caused, last month, 32 deaths, which is almost double the mortality in June from this cause, and indicates a laxity of hygienic care in the cleansing of our dwellings, or in the preparation of our food and drink.

REMITTENT FEVER caused 10 deaths, which is also a marked increase over last report.

CEREBRO-SPINAL FEVER was credited with 12 deaths, which is a decrease of nearly one half from last month's report; 8 of these deaths occurred in San Francisco, 2 in Watsonville, 1 in Alameda, and 1 in Jolon.

ERYSIPELAS caused no fatality during the month.

CANCER was fatal in 37 instances.

HEART DISEASE caused 75 deaths.

ALCOHOLISM proved fatal in 10 instances.

DEATHS FROM CAUSES not classified in this abstract numbered 499.

PREVAILING DISEASES.

Reports of diseases received from over 100 towns agree in general that the amount of sickness is limited in nearly every locality; no epidemic is prevailing in any part of the State, if we except, perhaps, measles and whooping-cough, which in a few towns prevail extensively. The many warm days that occurred in July produced, with other factors, a decided increase in stomach and bowel disorders, which in some cases were so severe as to warrant the name of cholera morbus. This severe form of cholera and purging was noticed as—

CHOLERA MORBUS in Tehachapi, where it was quite prevalent; it was also in Williams, Fresno, Downey, Lodi, Pleasanton, Merced, and Sacramento.

DIARRHŒA AND DYSENTERY were observed with frequency in Oakland, San Los Angeles, Chico, Alameda, Rio Vista, Gridley, Anaheim, Williams, Reddin;

Middletown, Truckee, Fresno, Downey, Bakersfield, Sausalito, Needles, Lakeport, Etna Mills, Lockeford, Stockton, Hollister, Sacramento, Ione, Calico, Oakdale, El Monte, Newman, San José, and Benicia.

CHOLERA INFANTUM is mentioned as present in a great number of places. In San Francisco it was quite prevalent; it was also noted in Oakland, Haywards, Alameda, Dixon, Davisville, Sacramento, Chico, Grass Valley, Ione, Los Gatos, Merced, Napa, Petaluma, Pleasanton, Rio Vista, Pomona, San José, Stockton, Vallejo, Gridley, Fresno, Gonzales, Jackson, St. Helena, and Cottonwood.

MEASLES was reported in Sacramento, where it is becoming quite prevalent. It also was noted in Middletown, Downey, Jolon, Sausalito, North San Juan, Hollister, Merced, St. Helena, Los Angeles, and San Francisco.

SCARLET FEVER.—A few cases were reported in Sacramento, San Francisco, Rocklin, Ontario, St. Helena, and Sausalito.

SMALLPOX was reported in North San Juan, but inquiry from Dr. George Farley, our Health Officer, elicited the fact that the report was a mistake, and without any foundation in truth.

DIPHTHERIA AND CROUP.—Some sporadic cases of these diseases were reported in San Francisco, Sacramento, Rio Vista, Anaheim, Tehachapi, Truckee, Cloverdale, Downey, Elk Grove, Etna Mills, Haywards, Los Angeles, and Oakland.

WHOOPING-COUGH was noted in Sacramento, San Francisco, Merced, Williams, Truckee, Hanford, Ontario, Bakersfield, Lodi, Etna Mills, and North San Juan.

ERYSIPELAS.—Some cases of this disease were reported in Cottonwood, Knights Ferry, Fresno, Elk Grove, Bakersfield, Lodi, Eureka, Calico, Ione, and Merced.

TYPHOID FEVER is noted with increasing frequency in our sickness reports. Cases occurred during the month in Igo, Tehachapi, Fresno, Bakersfield, Needles, Lodi, Etna Mills, Eureka, Elsinore, Merced, El Monte, St. Helena, Sacramento, Angels Camp, Los Gatos, Healdsburg, Mendocino, Oakland, Vacaville, San Mateo, Rocklin, and San Francisco.

TYPHO-MALARIAL FEVER was observed in Livermore, Truckee, Hanford, Colfax, and Pleasanton.

REMITTENT AND INTERMITTENT FEVERS are noted in nearly all of our reports, as might be anticipated at this season of the year.

PNEUMONIA is mentioned in a decreasing number of our reports. Sporadic cases were noted in Sacramento, Igo, Jolon, Ione, Alameda, Angels Camp, Berkeley, Eureka, Folsom, Grass Valley, Los Angeles, Petaluma, Oakland, San Benito, Trinity, and San Francisco.

BRONCHITIS was somewhat prevalent in a mild form. It was noted in Igo, Rio Vista, Tehachapi, Downieville, Truckee, Fresno, Galt, Pleasanton, St. Helena, El Monte, Los Angeles, Pasadena, San José, Santa Barbara, and San Francisco.

CHOLERA ASIATICA.—This dread disease shows no sign of abatement in Spain; on the contrary, it is spreading rapidly through the provinces. We are, however, more concerned, nearer home, the disease having made its appearance in Japan, to which we are so closely allied by commerce and individual intercourse. The disease having been so clearly proven to be contagious through excretions from the infected body, the utmost vigilance will have to be exercised to prevent the transportation of these poison germs to our shores. But suppose all vigilance fails, and cholera suddenly appears in our midst. The question that should present itself to every community in the State at this moment is: Are we prepared to repel the invader; are our cities, towns, hamlets, and individual premises in such a state of order and cleanliness that disease can find no accumulated filth in which to incubate its germs? If they are, we have nothing to fear, as it has been stated by good authority that the cholera germ is innocuous when it leaves the human organism, and that it requires another medium outside of man to mature and complete its infective properties. That medium is a soil moist and saturated with impurities. If this assertion is true, it necessarily follows that the most complete safeguards against the spread of cholera are a clean soil, untainted air, and pure water. The first may be attained by proper drainage, removal of superincumbent filth, garbage, and all accumulations of dirt within or near our dwelling places. Health Boards and Health Officers should now be more vigilant than ever, and enforce, with all the power the law gives them, the proper cleansing of the districts under their charge. They are the officers accountable to the people for the preservation of their lives when threatened by disease; their responsibility is great, and their remuneration should be adequate. We know that cholera cannot exist or extend when the means of its existence are destroyed. To do this is the work of local Boards of Health and Health Officers. No favoritism or dislike to prosecute offenders in the enforcement of the provision of the law should, for a moment, influence the health authorities when a great danger like the present menaces the community. It can be averted by every Sanitary Board and every Sanitary Officer doing their whole duty conscientiously, without fear or favor; whereas, putting off to a more convenient season that which should be done to-day, may be followed by an epidemic of one of the most fatal of diseases, the end of which no man can foretell or its results foresee.

PACIFIC COAST WEATHER SUMMARY.

During the month of July the weather in the Pacific Coast States has not been characterized by unusual conditions. The rainfall has been below the normal at all stations except San Francisco, where the increase amounts to .02 of an inch. The deficiency

ranged from "trace," at Red Bluff and Los Angeles, Cal., to .74 of an inch at Spokane Falls, Washington. No rainfall was reported from Southern California during the month. Rain fell on five days at Yuma, but in amounts too small to measure. In Northern California rain fell at San Francisco on the 8th, Eureka on the 8th and 20th, and amounts too small to measure at Keeler on the 20th and 21st. In Oregon the rainfall was confined to the northern portion of the State, and in Washington to the southern and extreme eastern portions. The heaviest monthly rainfall for July (1.64 inches) occurred at Fort Canby, Washington. The heaviest daily rainfall (.54 of an inch) occurred at Fort Canby on the 9th.

The temperature has been above the normal at all stations except Red Bluff, Portland, and Olympia, where it has remained stationary. The increase has varied from about 1° at Fort Canby and Spokane Falls to 9° at Los Angeles.

It is important to note, in connection with these remarks, that the reports from Signal Service stations furnish data from which general estimates of weather conditions are made. Therefore, this review, in its brief summarization of the events of the month, cannot take account of peculiar local effects. Reports from a greater number of stations would necessarily bring to light peculiar circumstances of rainfall and temperature, which are rather to be expected in a region so subject to local peculiarities as the Pacific Coast States.

Abstract of the Reports of Deaths and their Causes in California during July, 1890.

[illegible]

Gridley, Dr. J. T. Harris.....	1,800
Hanford, Dr. J. A. Davidson.....	1,200
Haywards, Dr. G. E. Alexander....	1,200
Hendlsburg, Dr. N. B. Coffman.....	4,000
Hollister, Dr. J. H. Tebbetts.....	2,000
Igo, Dr. H. Schafer.....	600
Jone, Dr. A. L. Adams.....	1,500
Jolon, Dr. J. N. McGowan.....	1,000
Jackson, Dr. E. B. Robertson.....	2,600
Lockeford, Dr. E. N. Foote.....	500
Livermore, Dr. E. M. Keys.....	1,900
Lincoln, A. Fleming, H. O.....	1,000
Lakeport, Dr. S. R. Mather.....	1,500
Long Beach, Dr. J. W. Wood.....	2,000
Los Gatos, Dr. F. W. Knowles.....	1,800
Lodi, Dr. F. W. Colman.....	1,200
Los Angeles, Dr. G. MacGowan.....	80,000
Marysville, Dr. D. Powell.....	4,000
Merced, Dr. E. S. O'Brien.....	2,000
Middletown, Dr. R. E. Hartley.....	500
Modesto, Dr. W. J. Wilbite.....	2,400
Martinez, Dr. J. B. Tennant.....	2,000
Mendocino, Dr. J. W. Milliken.....	3,000
Napa, Dr. M. B. Pond.....	6,000
National City, Dr. Theo. F. Johnson..	2,000
Nevada City, Dr. F. R. Waggoner.....	6,000
Newman, Dr. H. V. Armistead.....	800
Needles, Dr. J. P. Booth.....	750
Oakdale, Dr. R. H. Endicott.....	1,000
Oakland, Dr. D. D. Crowley.....	60,000
Orland, Dr. W. Thurston.....	800
Oroville, Dr. J. H. M. Karsner.....	2,000
Ontario, Dr. W. E. Scott.....	2,000
Pasadena and vicinity, Dr. H. H. Sherk.	10,000
Petaluma, Dr. L. H. Patty.....	8,000
Placerville, Dr. W. Thurston.....	3,500
Pleasanton, Dr. W. H. Cope.....	700
Pomona and vicinity, Dr. S. F. Davis...	3,600
Rio Vista, Dr. S. C. Brown.....	1,800
Redding, Dr. F. P. Mitchell.....	3,000
Rocklin, Dr. A. M. Stafford.....	800
Sacramento, Dr. H. L. Nichols.....	30,000
San Diego, Dr. D. Goehnauer.....	32,000
San Francisco, Dr. J. W. Kenney.....	330,000
San José, Dr. J. R. Curnew.....	25,000

ABSTRACT FOR JULY, 1890—Continued.

LOCATIONS AND AUTHORITIES.	Deaths by Cause																									Totals.
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhoea and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population		
San Mateo County, County Recorder	14	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	18	12,000		
Santa Barbara, Dr. R. F. Winchester	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5,400		
Santa Cruz, Dr. C. L. Anderson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7,500		
Santa Rosa, Dr. H. C. Crowder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5,500			
Sausalito, Dr. H. J. Crumpton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	450		
San Benito County, Dr. J. H. Tebbetts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	8,000		
Shasta, Dr. J. M. Briceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600		
Sisson, Dr. E. C. Rhodes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,500		
Siskiyou County, County Recorder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	10,000		
Stockton, Dr. C. A. Ruggles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	15,000		
St. Helena, Dr. W. J. G. Dawson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2,500		
Suisun, Dr. J. W. B. Reynolds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,000		
Susanville, Dr. A. Milliken	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	850		
Tehachapi, Dr. A. Shafer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	500		
Truckee and vicinity, Dr. W. Curless	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1,300		
Trinity County, G. E. Gorman, H. O.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5,000		
Tulare City, Dr. C. F. Taggart	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,900		
Ukiah, Dr. E. W. King	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3,000		
Vallejo, Dr. W. D. Anderson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6,000		
Vacaville and Elmira, Dr. J. W. Stitt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4,000		
Visalia, Dr. T. W. Pendergrass	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3,000		
Watsonville, Dr. W. D. Rodgers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2,500		
Wheatland, Dr. L. Melton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	900	
Williams, Dr. A. W. Kimball	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600	
Woodland, Dr. T. Ross	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4,000		
Totals.	1,132	10	75	0	37	12	10	32	1	3	0	3	2	7	17	78	82	31	12	21	50	150	1,132	850,440		

AUGUST, 1890.

Mortality reports received for the month of August from 96 different localities throughout the State, with an estimated population of 806,360, give the number of decedents as 1,065, a monthly percentage of 1.32 per 1,000, or an annual mortality at the rate of 15.84 per 1,000, which is somewhat less than that of the preceding month. The mortality from cholera infantum and stomach and bowel disorders continues without much abatement.

CONSUMPTION caused 157 deaths during the month, which is an increase over last report.

PNEUMONIA had only 41 deaths attributed to it, which is a decrease of 10 from last month. Twenty-eight of these occurred in San Francisco, 4 in Oakland, 3 in San José, the balance in single instances scattered here and there.

BRONCHITIS caused 29 deaths; of these 20 occurred in San Francisco, 3 in Los Angeles, 1 each in Vallejo, San José, San Bernardino, Sacramento, Oakland, and Fresno.

CONGESTION OF THE LUNGS was fatal in 11 instances.

WHOOPING-COUGH caused 3 deaths.

DIPHTHERIA AND CROUP, collectively, caused 29 deaths, 25 being from diphtheria and 4 from croup. Of the former, 11 occurred in San Francisco, 2 in Los Angeles, 3 in Alameda, 4 in Sacramento, and 1 each in San José, Oakdale, Pasadena, Cloverdale, and Anaheim.

CHOLERA INFANTUM is reported to have caused 76 deaths in August, which is only 6 less than in the previous month.

DIARRHŒA AND DYSENTERY were fatal in 25 instances, which is a slight decrease from last report.

SCARLET FEVER was fatal in 2 instances, 1 in San Francisco and 1 in Antioch.

MEASLES caused but 1 death, which occurred in Hollister.

SMALLPOX caused no deaths.

TYPHO-MALARIAL FEVER is credited with 5 deaths.

TYPHOID FEVER.—Twenty-eight deaths were reported as caused by this disease, which is a decreased number from the previous month.

REMITTENT FEVER caused 6 deaths.

CEREBRO-SPINAL FEVER is credited with 10 deaths.

ERYSIPELAS caused no fatality during August.

CANCER was fatal in 40 instances.

HEART DISEASE is credited with 63 deaths.

ALCOHOLISM was fatal in 12 cases.

DEATHS FROM CAUSES not classified in this abstract number 451.

PREVAILING DISEASES.

Reports of sickness received from 110 localities throughout the State indicate a very favorable condition of the public health. If we except some bowel disorders that are a very general complaint, we might say that no sickness prevailed to any extent.

CHOLERA INFANTUM was increased in prevalence by the more than average high temperature experienced during the month. It was reported present in Sacramento, Redlands, Fresno, Pleasanton, Middletown, Gridley, Redding, Lockeford, Salinas, Brownsville, Cloverdale, Mariposa, Tulare, Dixon, Cottonwood, Forest Hill, Martinez, Alameda, Berkeley, Grass Valley, Gonzales, Haywards, Oakland, San José, Santa Cruz, Merced, Santa Rosa, Pomona, Orland, and San Francisco.

DIARRHŒA AND DYSENTERY were reported as noticed with increased frequency in Tehachapi, Pleasanton, Middletown, Santa Cruz, San Bernardino, Truckee, Redding, Galt, Hanford, Azusa, Lodi, Lockeford, Lakeport, Susanville, Brownsville, Benicia, Cloverdale, Newman, Williams, Ontario, Fresno, Forest Hill, Calico, Downey, Merced, Anaheim, Chico, Los Angeles, Rio Vista, Oakland, San Diego, Santa Rosa, and San Francisco.

CHOLERA MORBUS.—Some cases of this formidable disease were noticed in Middletown, Pleasanton, Eureka, Lakeport, Anaheim, Cottonwood, Cloverdale, Downey, Williams, Lockeford, Truckee, and Fresno.

MEASLES was reported as quite prevalent in Sacramento; it also was noticed in Pleasanton, Truckee, Dixon, Sausalito, Downey, and Hollister.

SCARLET FEVER.—Some sporadic cases of this disease were reported in Sacramento, Sausalito, Antioch, and San Francisco.

DIPHTHERIA AND CROUP were reported from Sacramento, Truckee, Rocklin, Newcastle, Oakdale, Anaheim, Etna Mills, Tulare, Cloverdale, Elk Grove, Los Angeles, Pasadena, San José, San Francisco, and Alameda. From the latter city Dr. J. T. McLean reports 18 cases, nearly all of whom were attending one of the public schools. He says: "An old cement sewer laid 12 years ago in the block in which this public school is situated, wore out and caved in, thus stopping the flow of sewage from the residences and school in this block. The old sewer was taken up and replaced by a new ironstone one. The process of change from the old to the new sewer occupied a fortnight. During this time sewer gas and disease germs escaped and contaminated the atmosphere in the neighborhood. The school children were more or less exposed, especially those whose curiosity drew them frequently and for a length of time to the vicinity of the sewer. The disease developing in these children, it is believed this broken sewer, with its escaping gas and disease germs, was the exciting cause of this sickness. In one family, where 3 children had diphtheria, 1 of them dying, the plumbing and sewerage were defective, the filth that should go into the sewer escaping into the cellar and contaminating the

atmosphere of the house, from which the sickness and death in this family resulted. Other cases of the disease are of a mild type."

WHOOPIING-COUGH was noticed in Truckee, Sacramento, Rocklin, Lodi, Salinas, Etna Mills, Sausalito, and Merced.

ERYSIPELAS, in sporadic form, is mentioned in reports from Truckee, Eureka, Oakdale, Lodi, Anaheim, Mariposa, Susanville, Sausalito, St. Helena, Calico, and Fresno.

TYPHOID FEVER is reported in a very limited number of places in sporadic form, and no doubt arising from local preventable causes: Lockeford, Sacramento, Lodi, Forest Hill, Alturas, Brownsville, Healdsburg, Dixon, St. Helena, Merced, Angels Camp, San Bernardino, Antioch, Chico, Los Angeles, Oakland, San José, Fresno, Santa Ana, Santa Rosa, Stockton, and San Francisco.

TYPHO-MALARIAL FEVER was reported in Truckee, Redding, Galt, Hanford, Oakdale, Anaheim, Knights Ferry, Mariposa, Igo, Susanville, Cottonwood, Merced, Benicia, Yuba City, and Fresno.

REMITTENT FEVER is reported in Tehachapi, where, Dr. Shafer says, it is known as "mountain fever," and then often confounded with typhoid fever. The disease was also present in Anderson, Shasta, Truckee, Gridley, Redding, Newcastle, Needles, Cloverdale, Knights Ferry, Newman, Dixon, and Rocklin.

CEREBRAL FEVER was reported in a limited number of cases in St. Helena, Downey, Santa Cruz, San José, Fresno, San Diego, Galt, and San Francisco.

PNEUMONIA is seldom mentioned in the report for August. Sausalito, Healdsburg, Alameda, Antioch, Chico, Oakland, Petaluma, Sacramento, San Diego, San José, Fresno, and San Francisco report a few cases.

BRONCHITIS was reported in Brownsville, Benicia, Newman, Downey, Tehachapi, Pleasanton, Middletown, Eureka, Galt, Lockeford, Los Angeles, Oakland, Sacramento, Fresno, San José, Vallejo, and San Francisco.

The following is extracted from the Monthly Circular of the Connecticut State Board of Health, as full of interest to California at this season:

SUMMER DIARRHŒA.—A report pregnant with interest at this season of the year has lately been made to the local Government Board of England, relating to the causes of diarrhœa. The investigation of the subject covered a period of 8 years, from 1880 to December, 1888, and an extensive territory, including towns of high and low diarrhœal mortality. It studied carefully the following:

(1) *General Conditions* in their influence as etiological factors, to wit: Temperature of the air—Temperature of the earth to the depth of 4 feet—Rainfall—Air movement.

(2) *Conditions and Locality*, such as—Elevations above sea-level—Soil—Density of population—Impediments to ventilation—Dark and dirty dwellings—Sewer or cesspool emanations—Filthy accumulations of domestic refuse in privies, garbage heaps, etc.—Polluted drinking water.

(3) *Conditions relating to the Population*—As social position—Food and artificial feeding of infants—Maternal neglect and carelessness in infant management. The report gives as the result of this exhaustive study conclusions which the author modestly calls provisional hypothesis. While he accords to a high temperature a very potent influence, he says "it is exerted indirectly," and is not a direct cause of diarrhœa. The following remarkable statement appears in the report: "The summer rise of diarrhœal mortality does not begin until the mean temperature recorded at 4 feet below the earth's surface attains about 56° F., no matter what might have been the previous temperature of the atmosphere or that recorded by the 1-foot earth thermometer." And that the maximum diarrhœal mortality of the year is in the week in which the temperature recorded by the 4-foot earth thermometer attains its mean weekly maximum. And, further, that the decline of the diarrhœal mortality coincides with the decline of temperature recorded by the 4-foot earth thermometer without regard to the atmospheric temperature.

The effect of rainfall seems to depend upon its reducing the earth temperature.

Air Movement.—In diarrhœal season, calm promotes it and high winds lessen it.

Soil.—Diarrhœal mortality is favored by soils permeable to water and air. Rock and impermeable soils lessen it. The presence of organic matter in the soil favors a high diarrhœal mortality.

Density of Population, and everything which contributes to foul the air or interfere with its free circulation, enhances the diarrhœal death rate.

Domestic Darkness and General Dirtiness of Dwellings conduce to diarrhœal mortality; if with these the habitations are crowded and the ventilation bad, then the mortality is highest. *Sewer or cesspool emanations* in a concentrated form and suddenly let loose, the author says, are of themselves capable of occasioning a diarrhœal epidemic.

Food-keeping, exposed in cellars and closets to emanations from domestic filth will produce diarrhœa, especially if stored in dark places and not exposed to currents of air. He sums up the report with the following suggestions: That the essential cause of diarrhœa resides ordinarily in the superficial layers of the earth, where it is intimately associated with the life processes of some micro-organism not yet detected.

That the vital manifestations of such organism are dependent upon conditions of seasons, and on the presence of dead organic matter, which is its pabulum.

That in certain conditions, particularly of temperature, these organisms become volatile, and are wafted through the air, attaching themselves to such organic material as will afford them a nidus and pabulum.

That in food, both in and out of our bodies, such micro-organisms find the proper conditions for their development, multiplication, and evolution.

And that when so received into the human body, they are the material cause of epidemic diarrhœa.

That for obvious reasons bottle-fed babies are most exposed to this infection.

PACIFIC COAST WEATHER SUMMARY.

The month of August has been characterized by a general deficiency of rainfall and a general increase of temperature.

The rainfall has been decidedly above the average in southeastern California, southwestern Nevada, and southern Arizona, where destructive floods, high winds, and thunder storms have occurred. Precipitation has been below the normal at all Signal Service stations except Yuma, Keeler, Fresno, and Spokane Falls. The increase at these stations range from trace at Fresno to 1.61 inches at Keeler. The deficiency ranges from .02 of an inch at San Francisco to .54 of an inch at Portland. Rain fell on 3 days at San Diego, but in amounts too small to measure. The rainfall at Sacramento was a trace, which is the normal condition for the month. Red Bluff was the only station reporting no rain during the month. The heaviest rainfall, 1.71 inches, occurred at Keeler, and a trace at San Diego, Fresno, Sacramento, and San Francisco.

LOCAL STORMS.—On the 5th heavy rains and high winds occurred in southeastern California and southern Arizona. Redlands, California, 2.16 inches; Riverside, California, .55 of an inch; San Bernardino, rain for four hours with heavy thunder storm; Tucson, Arizona, over 60 miles of railroad track washed away. August 6th.—First rain of season in San Diego County; heavy in fruit districts and mountains. At Palmetto, Nevada, 8.60 inches reported as falling in 1 hour, and on the 11th 8.80 inches in about 2 hours, causing great damage to roads. August 10th.—Thunder storm at Topo, San Benito County, California. August 17th.—Thunder storm at Ashland, Oregon, and heavy showers at Shasta, Petaluma, Sonoma, and San Francisco. August 9th.—Los Angeles County, heavy rain, damage to hay and dried fruits.

The temperature has been above the normal at all Signal Service stations. The increase has ranged from 1° at Yuma, to 8° at Los Angeles and Walla Walla. The highest temperature, 110°, occurred at Yuma on the 17th. The lowest temperature, 36°, occurred at Baker City on the 31st.

Abstract of the Reports of Deaths and their Causes in California during August, 1890.

Other Causes	1	6	1	1	1	5	0	0	1	0	1	0	2	0	0	1	2	0	2	0	4	0	1	0	1	0	1						
Alcoholism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Heart Diseases	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0						
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Cancer	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0						
Remittent and Intermittent Fevers	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Typhoid Fever	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Typho - Malarial Fever	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Whooping-Cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Scarlet Fever	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Croup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Diphtheria	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Other Diseases of St'mach & Bow'ls	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0						
Cholera Infantum	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0						
Diarrhoea and Dysentery	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Acute Bronchitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Acute Pneumonia	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Consumption	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Total Deaths	2	16	3	3	2	3	3	10	1	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Estimated Population	2,250	11,250	2,000	1,500	2,800	6,500	600	1,000	2,000	2,000	2,000	1,200	1,700	13,000	800	2,500	1,000	2,500	500	500	10,000	500	3,000	4,000	1,500	2,000	6,000						
LOCATIONS AND AUTHORITIES.	Alturas, Dr. J. M. Forrest.....	Alameda, Dr. John T. McLean.....	Anahelm, Dr. J. H. Bullard.....	Anderson, Dr. O. P. Paulding.....	Angels Camp, Dr. J. R. Darroh.....	Antioch, Dr. W. S. George.....	Auburn, R. S. Waldo, H. O.....	Azusa and vicinity, Dr. J. H. Miller.....	Benicia, Dr. E. Gray.....	Berkeley, Dr. F. H. Payne.....	Brownsville, Dr. L. C. Crossman.....	Calico, Dr. A. R. Rhea.....	Colton, Dr. M. F. Price.....	Colusa, Dr. R. A. Gray.....	Cottonwood, Dr. J. O. Smith.....	Cloverdale, Dr. R. S. Markell.....	Chico and vicinity, Dr. W. King.....	Davisville, Dr. W. E. Bates.....	Dixon, Dr. A. Trafton.....	Downville, Dr. A. Jump.....	Downey and vicinity, Dr. J. Q. Rowley.....	Elina Mills, Dr. E. W. Bathurst.....	Elk Grove, Dr. J. H. McKee.....	Eureka, Dr. S. B. Foster.....	Elsinore, Dr. T. E. Ellis.....	Forest Hill and vic. Dr. Paul Reudy.....	Fresno, Dr. T. M. Hayden.....	Folsom, Dr. B. F. Bates.....	Galt, Dr. A. Montague.....	Grass Valley, Dr. W. C. Jones.....	Gonzales, Dr. C. A. E. Hertel.....	Gridley, Dr. J. T. Harris.....	Georgetown, Dr. W. S. Hickman.....

1,800	Hanford, Dr. J. A. Davidson.....
1,200	Haywards, Dr. G. E. Alexander.....
4,000	Healdsburg, Dr. N. B. Coffman.....
2,000	Hollister, Dr. J. H. Tebbetts.....
500	Ego, Dr. H. Schafer.....
250	Knights Ferry, Dr. J. H. Lowe.....
500	Lockeford, Dr. E. N. Foote.....
1,800	Livermore, Dr. E. M. Keys.....
1,600	Little Stony, R. S. Burgett, J. P.....
1,000	Lincoln, A. C. Fleming, H. O.....
1,500	Lakeport, Dr. S. R. Mather.....
1,200	Loati, Dr. F. W. Colman.....
2,000	Long Beach, Dr. J. W. Wood.....
80,000	Los Angeles, Dr. G. Macdowan.....
4,000	Marysville, Dr. D. Powell.....
1,600	Merced, Dr. E. S. O'Brien.....
3,000	Mendocino, Dr. J. W. Milliken.....
2,400	Modesto, Dr. W. J. Wilhite.....
1,000	Mariposa, Dr. W. J. Kearney.....
500	Midtown, Dr. R. E. Harley.....
2,000	Marina, Dr. J. B. Tennant.....
6,000	Napa, Dr. M. B. Pond.....
4,000	Newada City, Dr. F. R. Waggoner.....
800	Newman, Dr. Stratton.....
400	Newcastle, Dr. M. Solnabel.....
750	Needles, Dr. J. P. Hooth.....
40,000	Oakland, Dr. D. D. Crowley.....
1,000	Oakdale, Dr. R. H. Endicott.....
2,000	Oroville, Dr. J. H. M. Karsner.....
3,000	Orland, Dr. W. Thurston.....
2,000	Ontario, Dr. W. E. Scott.....
10,000	Pacadena and vicinity, Dr. H. H. Shork.....
8,000	Petaluma and vicinity, Dr. L. H. Patty.....
3,500	Placerville, Dr. H. W. A. Worthen.....
3,000	Pomona and vicinity, Dr. S. F. Davis.....
800	Pleasanton, Dr. W. H. Cope.....
3,000	Redding, Dr. F. P. Mitchell.....
1,800	Rio Vista, Dr. S. C. Brown.....
1,200	Rocklin and vicinity, Dr. A. M. Stafford.....
30,000	Sacramento, Dr. H. L. Nichols.....
2,700	Salinas City, Dr. M. C. E. Gydson.....
15,000	San Bernardino Co., County Recorder.....
32,000	San Diego, Dr. D. Gochenauer.....
300,000	San Francisco, Dr. J. W. Keeney.....
15,000	San Francisco, Dr. J. R. Curnow.....

ABSTRACT FOR AUGUST, 1890—Continued.

[illegible]

SEPTEMBER, 1890.

Mortality reports received from 85 different localities throughout the State, with an estimated population of 705,309, give the number of decedents as 920, being a monthly percentage of 1.3 per 1,000, or an annual mortality at the rate of 15.6 per 1,000, which is a considerable decrease from the previous month. The mortality from cholera infantum has in a marked measure decreased, as also have diseases of the respiratory organs.

CONSUMPTION caused 130 deaths in September, which is 27 less than last month.

PNEUMONIA was fatal in 54 instances, which is a slight increase over last report.

BRONCHITIS was credited with only 15 deaths, against 41 for the previous month, which is a decrease of 26 during the month.

CONGESTION OF THE LUNGS was fatal in 16 instances.

WHOOPIING-COUGH caused but 2 deaths.

DIPHTHERIA AND CROUP, collectively, caused 30 deaths, which is about the same as last month. Nineteen were from diphtheria and 11 from croup. Of those from diphtheria, 8 occurred in San Francisco, 3 in Chico, 2 each in Los Angeles and Haywards, and 1 each in Watsonville, Pasadena, Modesto, and Marysville. From croup, 3 died in Sacramento, 5 in San Francisco, and 1 each in Pasadena, San José, and Grass Valley.

CHOLERA INFANTUM was credited with 45 deaths, which is a decrease of nearly one half the mortality recorded for August. The cooler weather during the month no doubt contributed not a little to this result.

DIARRHŒA AND DYSENTERY were fatal in 24 instances, which is also a decline.

SCARLET FEVER was fatal in but 1 instance, and that in San Francisco.

MEASLES caused but 1 death, which occurred in Los Angeles.

TYPHO-MALARIAL FEVER caused 1 death in Roseville.

TYPHOID FEVER was fatal in 30 cases, which is a small mortality.

REMITTENT FEVER caused 5 deaths.

CEREBRAL FEVER, which includes cerebro-spinal meningitis, is reported to have caused 10 deaths. Of these, 4 occurred in San Francisco, 1 each in Angels Camp, Fresno, Haywards, Pacific Grove, San Diego, and Watsonville.

Erysipelas was fatal in 4 instances during the month; 1 each in Sacramento, San Francisco, San José, and Santa Cruz.

CANCER caused 29 deaths.

HEART DISEASE was fatal in 69 instances.

ALCOHOLISM is credited with 10 deaths during the month.

DEATHS FROM CAUSES not classified in this abstract, 401.

PREVAILING DISEASES.

Reports of sickness from 98 localities throughout the State continue to indicate a very favorable condition of the public health. It does not appear from any of them that epidemic disease of any description is present anywhere in the State. Bowel disorders are quite prevalent, as might be expected at this season, when fruit is indulged in without regard to quantity, and very often to quality. The cooler weather of the month past has had a beneficial effect in lessening the frequency and fatality of summer diarrhœa in children.

CHOLERA INFANTUM was noticed in sporadic form in Pasadena, Salinas, Chico, Gridley, Pleasanton, Knights Ferry, Ione, Lockeford, Mariposa, Angels Camp, Colton, Eureka, Marysville, Nevada City, Oakland, San Francisco, Sacramento, Pacific Grove, Roseville, San José, and Santa Ana.

DIARRHŒA AND DYSENTERY were reported in Azusa, Downey, Needles, Pacific Grove, Downieville, Lodi, Susanville, Brownsville, Lakeport, Chico, College City, Galt, Pleasanton, Hanford, Bakersfield, Fresno, Redding, Williams, Hollister, Julian, Modesto, Los Angeles, Oakland, Sacramento, and San Francisco.

MEASLES is evidently decreasing in the State. A few cases were noticed in Santa Cruz, Rocklin, Hollister, Los Angeles, San Francisco, and Sacramento.

SCARLET FEVER.—A limited number of cases were reported in Sacramento, Santa Cruz, Rocklin, Hollister, and San Francisco. The type is very mild, without any tendency to spread, although given every opportunity to do so. In Sacramento, it has come to our knowledge that children are permitted to attend school while the skin is still desquamating from the children's hands. As this is the most infectious stage, we are surprised at the limitation of the disease. This may be owing to the general good health of the school children, enabling them to resist the attack of the communicable germ; or it may be that the disease has but a weak effective power, and requires some unknown factor to give it that epidemic tendency which makes it one of the most dreadful of the communicable diseases.

DIPHTHERIA AND CROUP were present during the month in Truckee, Chico, San José, Hanford, Sacramento, Knights Ferry, Grass Valley, Haywards, Los Angeles, Marysville, Modesto, Pasadena, and San Francisco. In Chico, Dr. King writes, the disease was chiefly confined to one family, although five other cases appeared subsequently. Strict quarantine, however, prevented any extension of the disease. In Sacramento there was a serious outbreak of diphtheria and diphtheritic croup in the Protestant Orphan Asylum, which was, fortunately, confined to that institution; a few sporadic cases were, however, noted in the city. We cannot too earnestly impress upon the authorities that each case of such disease is a public danger, against which the public, as represented by its local sanitary authorities, is entitled to be warned by proper information, and we

believe that where an institution like the Orphan Asylum is the seat of epidemic contagious disease, it is the duty of the local Sanitary Officer to visit such institution, and have it properly disinfected under his personal supervision. Such disinfection should not be intrusted to those ignorant of the precautionary duties required, or left to the chance of a superficial sprinkling of carbolized water about the room as a sufficient remedy to destroy the germs of the disease. We believe that much of the diphtheria that exists is dependent upon insufficient disinfection where a case occurs. The germ, we know, is most tenacious of life, and except the most skilled disinfection is exercised, will continue to live and propagate its hateful existence for an indefinite period of time. We should therefore require all Health Officers to see to this matter themselves, and know that through their exertions all ordinary precautions have been taken to insure immunity to the public under their charge.

WHOOPING-COUGH was present in Sacramento, Salinas, Truckee, Anderson, and San Francisco.

ERYSIPELAS is mentioned in reports from Pacific Grove, Chico, Sacramento, Santa Cruz, San José, and San Francisco.

TYPHOID FEVER is reported with increasing frequency as the season advances. Sporadic cases occurred in Salinas, Downey, Needles, Lodi, Chico, Brownsville, Lakeport, Wheatland, Eureka, Igo, Alturas, Ione, Mariposa, Hollister, Stockton, Santa Ana, Santa Barbara, Los Angeles, San Francisco, Sacramento, Oakland, Grass Valley, and Nevada City. The increase in the prevalence of typhoid fever is to be expected at this season of the year, and will continue year after year until the public appreciate the fact that this is a PREVENTABLE disease, and wholly within its own power to eradicate. Its prevention simply requires perfect cleanliness about our persons and premises, and constant watchfulness of the sources of supply of our drinking water. All water from a suspected source should be boiled before using. Numerous instances are recorded where typhoid fever was spread from the rinsing of milk cans with water apparently pure, but really infected with the germs of typhoid fever capable of infecting the milk. We have no doubt that many of the cases of typhoid fever which have baffled our research for their origin have arisen in this way. Most of our dairies have their water supply from wells sunk in the cow yard, where they receive the drainage from the polluted soil. It is a matter of history that cattle themselves suffer from a disease analogous to typhoid fever, if not the identical disease itself. It would, therefore, be an act of prudence on the part of our Health Officers to visit our dairies and examine the source of their water supply, and the means used in keeping the milk from pollution. Milk from an unknown or a suspicious source should be heated to the boiling point before using, as thus is effectually destroyed not only the germs of typhoid fever, but likewise the germs of consumption, which are very commonly conveyed through milk taken from tuberculous cows.

CEREBRAL FEVER was reported in isolated cases in Pacific Grove, Sacramento, Redding, Angels Camp, Fresno, Haywards, San Diego, Watsonville, and San Francisco.

REMITTENT AND INTERMITTENT FEVERS were reported in a good many places, but the type was mild and occurred chiefly along the river bottoms and in the irrigated districts, in preference to other localities.

PNEUMONIA is again becoming frequent in our reports. It was present in Salinas, Santa Cruz, Truckee, San Francisco, Sacramento, Chico, Eureka, Ione, Fresno, Folsom, Haywards, Sisson, Los Angeles, Monterey, Mendocino, Oakland, Petaluma, San Diego, and Gonzales.

BRONCHITIS was quite prevalent in many localities. It was noticed in Downey, Truckee, Needles, Brownsville, Chico, Galt, Pleasanton, Eureka, Bakersfield, Igo, Williams, Mariposa, and San Francisco. The type was mild, and the fatality quite limited.

PACIFIC COAST WEATHER SUMMARY.

The month of September has been characterized by a general increase of temperature, with an excess of rainfall in the south and a deficiency in the north.

RAINFALL.—It has been above the average in southeastern Oregon, California, western Nevada, and western Arizona, being especially marked in the Sacramento and San Joaquin Valleys. It has been below the average in western Oregon and Washington. The excess ranges from .09 of an inch at Los Angeles to 1.18 inches at Fresno. The deficiency ranges from .32 of an inch at Roseburg to 3.03 inches at Fort Canby. Rain fell on the following dates in Washington: 1st, 2d, 5th, 6th, 11th, 14th to 17th, 19th, 30th. Oregon: 1st, 16th, 19th, 23d, 26th, 29th, 30th. California: 4th, 5th, 15th, 16th, 18th, 19th, 22d to 30th. Nevada: 24th to 30th. Arizona: 1st, 3d to 8th, 10th, 15th to 19th, 23d, 24th, 26th, 30th. The following are the heaviest rainfalls for the month: Cisco, 3.13 inches; Colfax, 3.05 inches; Auburn, 2.77 inches; Red Bluff, 1.50 inches; Fresno, 1.30 inches. All stations have reported more or less rain during the month. The period of greatest rainfall was from the 27th to the 30th. It began in Southern California on the afternoon of the 27th, owing to the southwestward movement of a large area of cold air from Utah and Nevada, which had gradually moved southward from Montana on the 25th and 26th. This office issued rain forecasts for Southern California at 6 p. m. of the 25th, 48 hours in advance of the storm. Northern California also received rain forecasts equally far in advance of the storm. On the evening of the 27th, and also on the morning of the 28th, special rain warnings were telegraphed to all parts of California and portions of western Nevada. In spite of the general character of the rain and excessive amounts in certain localities, the damage to crops is reported to be comparatively small.

LOCAL STORMS.—Thunder storms occurred on the 2d at Spokane Falls; 5th, Susanville; 16th, Hollister; 23d, Phoenix; 24th, Fresno and San Miguel; 25th, Porterville. Hail storms occurred at Spokane Falls, 2d; Tombstone, 14th and 23d.

TEMPERATURE.—It has been above the normal at all Signal Service stations except Keeler, Fresno, Eureka, and Fort Canby, where the deficiency has ranged from 1° to 3°. The increase has ranged from 2° at Olympia to 8° at Walla Walla, and 9° at Los Angeles and Yuma. The highest temperature, 110°, occurred at Yuma, on the 3d and 4th. The lowest temperature, 24°, occurred at Baker City, on the 7th and 12th.

FROST.—It occurred at Baker City on the 1st, Newark and Winnemucca on the 2d, Baker City on the 3d, Drain, Or., on the 5th, Winnemucca on the 9th.

REPORT OF THE STATE BOARD OF HEALTH.

Abstract of the Reports of Deaths and their Causes in California during September, 1890.

LOCATIONS AND AUTHORITIES.	Abstract of the Reports of Deaths and their Causes in California during September, 1890.																									
	Other Causes	Alcoholism.....	Heart Diseases	Erysipelas.....	Cancer	Cerebro - Spinal Fevers.....	Remittent and Intermittent Fevers.....	Typhoid Fever	Typho - Malarial Fever.....	Whooping-Cough..	Smallpox	Measles.....	Scarlet Fever	Croup.....	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum.	Diarrhoea and Dysentery.....	Congestion of the Lungs.....	Acute Bronchitis..	Acute Pneumonia.	Consumption.....	Total Deaths	Estimated Population		
Alturas, Dr. J. M. Forrest.....	0	2	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500	Alturas, Dr. J. M. Forrest.....	
Anaheim, Dr. J. H. Bullard.....	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200	Anaheim, Dr. J. H. Bullard.....	
Anderson, Dr. O. P. Paulding.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	Anderson, Dr. O. P. Paulding.....	
Antioch, Dr. F. Rattan.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	Antioch, Dr. F. Rattan.....	
Angels Camp, Dr. J. R. Dorroh.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	Angels Camp, Dr. J. R. Dorroh.....	
Auburn, R. S. Waldo, H. O.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500	Auburn, R. S. Waldo, H. O.....	
Azusa and vicinity, Dr. J. H. Miller.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,500	Azusa and vicinity, Dr. J. H. Miller.....	
Bakersfield, Dr. C. A. Rogers.....	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,100	Bakersfield, Dr. C. A. Rogers.....	
Benicia, Dr. E. Gray.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,800	Benicia, Dr. E. Gray.....	
Biggs, Dr. O. C. Hawkins.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	Biggs, Dr. O. C. Hawkins.....	
Brownsville, Dr. L. C. Crossman.....	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	800	Brownsville, Dr. L. C. Crossman.....	
College City, Dr. C. H. Gibbons.....	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	650	College City, Dr. C. H. Gibbons.....	
Colton, Dr. M. F. Price.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500	Colton, Dr. M. F. Price.....	
Cottonwood, Dr. J. O. Smith.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200	Cottonwood, Dr. J. O. Smith.....	
Cloverdale, Dr. R. S. Markell.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,500	Cloverdale, Dr. R. S. Markell.....	
Chico and vicinity, Dr. W. King.....	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,000	Chico and vicinity, Dr. W. King.....	
Downieville, Dr. A. Jump.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	Downieville, Dr. A. Jump.....	
Downey and vicinity, Dr. J. Q. Rowley.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500	Downey and vicinity, Dr. J. Q. Rowley.....	
Ena Mills, Dr. E. W. Bathurst.....	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	Ena Mills, Dr. E. W. Bathurst.....	
Eureka and vicinity, Dr. S. B. Foster.....	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,000	Eureka and vicinity, Dr. S. B. Foster.....	
Forest Hill and vicinity, Dr. Paul Reudy.....	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,000	Forest Hill and vicinity, Dr. Paul Reudy.....	
Fort Bragg, Dr. S. J. Reid.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200	Fort Bragg, Dr. S. J. Reid.....	
Fresno, Dr. T. M. Hayden.....	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,500	Fresno, Dr. T. M. Hayden.....	
Folsom, Dr. B. F. Bates.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,500	Folsom, Dr. B. F. Bates.....	
Georgetown, Dr. W. S. Hickman.....	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	800	Georgetown, Dr. W. S. Hickman.....	
Galt, Dr. A. Montague.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	Galt, Dr. A. Montague.....	
Grass Valley, Dr. W. C. Jones.....	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,000	Grass Valley, Dr. W. C. Jones.....	
Gonzales, Dr. C. A. E. Hertel.....	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	Gonzales, Dr. C. A. E. Hertel.....	
Gridley, Dr. J. T. Harris.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500	Gridley, Dr. J. T. Harris.....	
Hanford, Dr. J. A. Davidson.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200	Hanford, Dr. J. A. Davidson.....	
Haywards, Dr. G. L. Alexander.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200	Haywards, Dr. G. L. Alexander.....	
Hollister, Dr. J. H. Tebbetts.....	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200	Hollister, Dr. J. H. Tebbetts.....	
Igo, Dr. H. Schafer.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600	Igo, Dr. H. Schafer.....	

[illegible]

ABSTRACT FOR SEPTEMBER, 1890—Continued.

LOCATIONS AND AUTHORITIES.	Other Causes															401
	8	4	2	0	2	2	1	1	0	0	0	0	0	0	0	
	Alcoholism															10
	Heart Diseases															69
	Erysipelas															4
	Cancer															29
	Cerebro - Spinal Fevers															10
	Remittent and Intermittent Fevers															5
	Typhoid Fever															30
	Typho - Malarial Fever															1
	Whooping-Cough															2
	Smallpox															0
	Measles															1
	Scarlet Fever															1
	Croup															11
	Diphtheria															19
	Other Diseases of St'mach & Bow'ls															43
	Cholera Infantum															45
	Diarrhoea and Dysentery															24
	Congestion of the Lungs															16
	Acute Bronchitis															15
	Acute Pneumonia															54
	Consumption															130
	Total Deaths															920
	Estimated Population															705,309
	Totals															
St. Helena and vic., Dr. W. J. G. Dawson	2,800															
Susanville, Dr. A. Milliken	850															
Truckee and vicinity, Dr. W. Curless	1,300															
Trinity County, G. E. Norman, H. O.	5,000															
Vallejo, Dr. W. D. Anderson	6,000															
Vacaville and Elmira, Dr. J. W. Stitt	4,500															
Watsonville, Dr. W. D. Rodgers	2,500															
Wheatland, Dr. L. Melton	800															
Williams, Dr. A. W. Kimball	600															
Woodland, Dr. T. Ross	4,000															

OCTOBER, 1890.

Mortality reports received from 80 different localities throughout the State, with an estimated population of 754,639, give the number of decedents as 1,016, being a monthly percentage of 1.34+ per 1,000, or an annual mortality of 16.08 per 1,000, which is an increase over that of the previous month.

CONSUMPTION is credited with 150 deaths, which is an increase of 20 over the death rate in September.

PNEUMONIA caused 56 deaths, which is also an increase over last report.

BRONCHITIS was fatal in 20 instances.

CONGESTION OF THE LUNGS caused 7 deaths.

WHOOPING-COUGH caused 4 deaths.

DIPHTHERIA is credited with 39 deaths, which is a large increase over the mortality caused by this disease last month. Twenty of these deaths occurred in San Francisco, where the disease is quite prevalent, 4 in Los Angeles, 3 in Alameda, 3 in Sacramento, 2 in Sausalito, and 1 each in San José, Visalia, Grass Valley, Fresno, Chico, Napa, and Newcastle.

CROUP caused 18 deaths, which is a large increase over the deaths from it last month. Thirteen died in San Francisco, 2 in Santa Ana, and 1 each in Stockton, San José, and Sacramento.

CHOLERA INFANTUM is credited with 32 deaths, which is a decrease from last report.

DIARRHŒA AND DYSENTERY were fatal in 13 instances.

SCARLET FEVER caused 1 death, which occurred in Oakland.

MEASLES was fatal in 2 instances, 1 in Sacramento, and 1 in Shasta.

TYPHO-MALARIAL FEVER, although quite prevalent, caused but 3 deaths.

TYPHOID FEVER is credited with 36 deaths, which is an increase over the number reported last month.

REMITTENT FEVER is credited with 5 deaths.

CEREBRO-SPINAL FEVER is reported to have caused 5 deaths.

ERYSIPELAS was fatal in 2 instances.

CANCER caused 29 deaths, which is about the monthly average.

HEART DISEASE caused 89 deaths.

ALCOHOLISM is credited with 15 deaths during the month.

DEATHS FROM CAUSES not classified in this abstract, 428.

PREVAILING DISEASES.

Reports received from 86 localities in different parts of the State indicate an increase of sickness in most of them, especially in those diseases affecting the respiratory system. This might have been expected, as these diseases are greatly influenced by the mean temperature. They increase in prevalence as the temperature falls, and diminish as it rises. During the month of October the temperature was generally higher than normal during the earlier part of the month, but later there was a rapid fall, in some places so marked as to produce frost. This change seemed at once to determine an increase of pneumonia, bronchitis, and a condition of pulmonary affection approximating very closely to "la grippe," without inducing the severe debilitating effect coincident with that disease. It was also observed that the change in temperature had given a temporary prevalence to bowel disorders in those persons whose excretory functions were particularly active and easily influenced by variations in temperature.

CHOLERA INFANTUM, which, at this season of the year, usually diminishes in frequency, was noticed as prevailing in many places. Sporadic cases occurred in Sacramento, Cloverdale, Gridley, Lodi, Redding, Middletown, Oakland, Haywards, Alameda, San José, San Francisco, Downey, Fresno, Berkeley, and Grass Valley.

DIARRHŒA AND DYSENTERY were reported in Hanford, El Monte, Hopland, Lodi, Redding, Eureka, Gridley, Visalia, Truckee, Galt, Sacramento, Hollister, Shasta, Downey, Fresno, College City, Chico, Los Angeles, San Diego, and San Francisco.

MEASLES is prevailing in some few places—Sacramento, Elk Grove, Igo, Monterey, and Rocklin.

SCARLET FEVER.—Sporadic cases of this disease were observed in Sacramento, San Francisco, Oakland, Hollister, Pacific Grove, and Truckee.

WHOOPING-COUGH was reported in San Francisco, Oakland, Lockeford, Truckee, and Sacramento.

ERYSIPELAS.—Sporadic cases of this disease were reported in Truckee, Fresno, College City, and San Francisco.

TYPHOID FEVER.—The reports of this disease are increasing, the continued dryness of the weather being very favorable for its development. Sporadic cases were reported in Cloverdale, Cedarville, Napa, Lodi, Truckee, Galt, Igo, Elk Grove, Soquel, Nevada City, St. Helena, Oakland, Calico, Downey, Alameda, Oakland, San Francisco, San José, and Santa Ana.

TYPHO-MALARIAL FEVER was reported to be present in Hanford, Hopland, Cloverdale, Redding, Visalia, Cottonwood, Biggs, Hollister, Fresno, and College City.

REMITTENT AND INTERMITTENT FEVERS are not prevailing to any extent. Some few cases were observed in Gridley, Visalia, Knights Ferry, Redding, Truckee, Cottonwood, Fresno, Pacific Grove, Dixon, Anderson, Calico, Lockeford, Igo, Galt, and Marysville.

CEREBRAL FEVER was reported in isolated cases in Redding, Fresno, Grass Valley, and Pasadena.

PNEUMONIA was quite prevalent during the latter part of the month. It was so reported in San Francisco, Oakland, Alameda, Sacramento, Hanford, El Monte, Cottonwood, Lakeport, San José, St. Helena, Anderson, Gonzales, Fresno, Los Angeles, and Santa Barbara.

BRONCHITIS prevailed very generally, and was reported in College City, Fresno, Downey, St. Helena, Middletown, Lakeport, Lockeford, Galt, Visalia, Eureka, El Monte, Salinas, Los Angeles, and San Francisco.

INFLUENZA was mentioned in nearly all our reports as having been observed during the latter part of the month, some of our correspondents being of the opinion that it was a prelude to la grippe of last winter.

DIPHTHERIA AND **CROUP** have been quite prevalent during the month, assuming a malignity in many cases that has been quite unusual hitherto. In view of this prevalence, the State Board of Health has deemed it advisable to publish, for gratuitous distribution, a small pamphlet on the disease, its restriction and prevention, which can be had on application to the Secretary at Sacramento. The conditions being favorable for the development of the disease, the local health authorities should look more strictly to the public safety than they apparently do in the presence of these cases of diphtheria. They have the power of requiring from those persons attacked, that in regard to residence and otherwise, they shall so conduct themselves as not unnecessarily to multiply the chances of extending the affection to others. Public funerals should be strictly forbidden, and the transportation by rail of those dead from diphtheria should not be allowed, except under the most stringent provisions and competent inspection. Each case of such disease is a public danger against which the public is entitled to be warned by proper information. Any person knowingly having this disease under his care or control, who voluntarily neglects to take all the necessary precautions to prevent its spread, should not only be punishable by penalty, as for an act of nuisance, but should be liable to pay pecuniary damages for whatever harm he may occasion to others. At this time it would be well for parents to keep a watchful eye upon the animals with which their children play, as it is a well-ascertained fact that dogs and cats are very frequent carriers of infection into a household. An instance occurred in this city where a pet cat contracted diphtheria from a sick child and conveyed it to a neighbor's child who unfortunately played with it just after it had left the infected home. Cats having diphtheria generally display it by a yellow discharge through the nose, a gummy secretion about the eyes, a hoarse voice, and a desire for quiet and seclusion. Dogs are not nearly so subject to diphtheria as cats, but are liable to carry the infection on their hair. A curious fact recently discovered by Dr. Klein, and confirmed by the Health Officers in London, is that cats suffering from diphtheria manifest the disease more frequently in inflammatory deposit in the lungs than elsewhere, and while in this condition they were capable of communicating the disease to children, as when it manifested itself in the throat and nose. In San Francisco the disease is reported as almost epidemic, and ascribed to emanations proceeding from filthy sewers. It was also quite prevalent in Sacramento, in the vicinity of the drainage canal; was reported in Visalia, Napa, Sausalito, Hopland, Lodi, Eureka, Truckee, San José, St. Helena, Los Angeles, Downey, Fresno, Newcastle, Grass Valley, Chico, and Alameda. The extension of this disease to so many parts of the State may, perhaps, be attributed to some condition in the atmosphere of which we are ignorant, but we do know that wherever the germ is deposited, it is nurtured in filth and developed where sanitation is deficient.

PACIFIC COAST WEATHER SUMMARY.

The most striking feature of the weather for the month of October has been the marked deficiency in rainfall throughout the Pacific Coast States. The cause of this decrease in precipitation is due to a falling off in the number of storms which have entered the North Pacific Coast from the Japan Current, and also, and more especially, to the fact that these storms have passed eastward at a higher latitude than in previous Octobers. In order to illustrate this very important fact, I have prepared a set of storm-track charts for October, 1889, and 1890. A glance at these charts will show the relation between the extreme southerly position of the storm paths in October, 1889, and the extraordinary rainfall of that month, and the relation between the extreme northerly position of the storm paths and the marked deficiency of rainfall for October, 1890. The amount and distribution of rainfall dependent upon the latitude of the storms from the Japan Current, is one of the most important features of Pacific Coast weather, and is worthy of the careful attention of the public.

RAINFALL.—Except in Arizona, the rainfall is everywhere deficient. The decrease varies from .20 of an inch at Baker City and Keeler to 2.95 inches at Eureka, and 2.13 inches at Olympia. The excess varies from .88 of an inch at Fort Grant to 1.58 inches at Yuma. Rain fell on the following dates in Washington: 1st to 8th, 11th to 24th; Oregon: 1st to 8th, 11th to 14th, 16th to 19th, 22d; California: 1st to 3d, 9th, 10th, 18th, 19th; Nevada: 1st, 2d, 9th to 11th, 14th; Arizona: 1st to 4th, 10th to 12th. The heaviest rainfalls in 24 hours were 1.50 inches at Yuma on the 4th, and 1.22 inches at Fort Canby on the 5th. The heaviest monthly rainfalls were Fort Canby 5.30 inches, Portland 2.80 inches, Olympia 2.60, and Yuma 1.70. The following stations reported no rainfall during the month: San Francisco, Sacramento, Red Bluff, Fresno, Los Angeles, San Diego. Snow was reported as follows on the mountains: California, 9th, 10th, 20th; Nevada, 9th, 10th; Washington, 16th.

STORMS.—Hail storm near Tucson, Arizona, 4th. Thunder storms: Arizona, 4th; California, 17th. High winds on the Oregon and Washington coast, 2d, 5th, 6th to 9th, 13th, 15th, 18th, 20th, 24th, 27th, 28th. The maximum wind velocity at Fort Canby varied from 36 miles per hour on the 6th to 72 miles per hour on the 18th. Crescent City, Cal., high wind and heavy sea on the 28th.

TEMPERATURE.—The temperature has been generally above the normal. The excess ranges from 1° at Olympia to 10° at Los Angeles. The deficiency ranges from 2° at Eureka to 4° at Baker City. It remains stationary at Fort Canby and Fresno. The highest temperature—98°—occurred at Los Angeles on the 21st and 27th. The lowest temperature—20°—occurred at Baker City on the 15th. Frost occurred on the following dates in California: 3d, 9th to 12th, 14th to 17th, 20th; Oregon: 3d, 7th, 9th to 11th, 15th, 17th, 21st, 30th, 31st; Washington: 3d, 4th, 9th to 11th; Nevada: almost daily; Arizona: 12th. Ice formed at Silverton, Or., 14th.

REPORT OF THE STATE BOARD OF HEALTH.

Abstract of the Reports of Deaths and their Causes in California during October, 1890.

LOCATIONS AND AUTHORITIES.	Abstract of the Reports of Deaths and their Causes in California during October, 1890.																									
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhoea and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population		
Alturas, Dr. J. M. Forrest.....	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2,250	Alturas, Dr. J. M. Forrest.....	
Alameda, Dr. J. T. McLean.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	11,250	Alameda, Dr. J. T. McLean.....	
Anderson, Dr. O. P. Pandling.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,000	Anderson, Dr. O. P. Pandling.....	
Auburn, A. S. Waldo, H. O.....	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4,000	Auburn, A. S. Waldo, H. O.....	
Berkeley, Dr. F. H. Payne.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4,000	Berkeley, Dr. F. H. Payne.....	
Cedarville, Dr. B. Woodbridge.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,500	Cedarville, Dr. B. Woodbridge.....	
Colton, Dr. M. F. Price.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,500	Colton, Dr. M. F. Price.....	
Colfax, Dr. H. N. Miner.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,000	Colfax, Dr. H. N. Miner.....	
College City, Dr. C. H. Gibbons.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	750	College City, Dr. C. H. Gibbons.....	
Cottonwood, Dr. J. O. Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,200	Cottonwood, Dr. J. O. Smith.....	
Cloverdale, Dr. R. S. Markell.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,700	Cloverdale, Dr. R. S. Markell.....	
Chico and vicinity, Dr. W. King.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	10,000	Chico and vicinity, Dr. W. King.....	
Downey and vicinity, Dr. Q. J. Rowley.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2,500	Downey and vicinity, Dr. Q. J. Rowley.....	
El Monte, Dr. F. P. Cave.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	800	El Monte, Dr. F. P. Cave.....	
Eureka, Dr. S. B. Foster.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	10,000	Eureka, Dr. S. B. Foster.....	
Fresno, Dr. T. M. Hayden.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	9,000	Fresno, Dr. T. M. Hayden.....	
Galt, Dr. A. Montague.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,000	Galt, Dr. A. Montague.....	
Grass Valley, Dr. W. C. Jones.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6,000	Grass Valley, Dr. W. C. Jones.....	
Gonzales, Dr. C. A. E. Hertel.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	500	Gonzales, Dr. C. A. E. Hertel.....	
Gridley, Dr. J. T. Harris.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,500	Gridley, Dr. J. T. Harris.....	
Hanford, Dr. J. A. Davidson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,300	Hanford, Dr. J. A. Davidson.....	
Haywards, Dr. G. L. Alexander.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1,200	Haywards, Dr. G. L. Alexander.....	
Hopland, Dr. C. F. Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	400	Hopland, Dr. C. F. Grant.....	
Hollister, Dr. J. H. Tebbetts.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,500	Hollister, Dr. J. H. Tebbetts.....	
Igo, Dr. H. Schafer.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	600	Igo, Dr. H. Schafer.....	
Jackson, Dr. E. B. Robertson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,500	Jackson, Dr. E. B. Robertson.....	
Knights Ferry, Dr. J. H. Lowe.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	250	Knights Ferry, Dr. J. H. Lowe.....	
Lincoln, A. C. Fleming, H. O.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,000	Lincoln, A. C. Fleming, H. O.....	
Lakeport, Dr. R. Mather.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,500	Lakeport, Dr. R. Mather.....	
Lodi, Dr. F. W. Colman.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,200	Lodi, Dr. F. W. Colman.....	
Los Angeles, Dr. G. MacGowan.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	65,000	Los Angeles, Dr. G. MacGowan.....	
Marysville, Dr. D. Powell.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4,000	Marysville, Dr. D. Powell.....	
Middletown, Dr. R. E. Hartley.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	800	Middletown, Dr. R. E. Hartley.....	

REPORT OF THE STATE BOARD OF HEALTH.

[illegible]

Included in the above, and reporting no deaths, are the following: Biggs (pop., 2,000), Dr. O. C. Hawkins; Calico (pop., 1,000), Dr. A. R. Rhea; Dixon (pop., 2,500), Dr. A. Trafton; Downieville (pop., 1,000); Elk Grove (pop., 500), Dr. J. H. McKee; Elsinore (pop., 1,200), Dr. T. S. Ellis; Forest Hill and vicinity (pop., 3,000), Dr. Paul Reedy; Folsom (pop., 1,500), Dr. B. F. Bates; Lockeford (pop., 500), Dr. E. N. Foote; Long Beach (pop., 2,000), Dr. J. W. Wood; Orland (pop., 3,000), Dr. W. Thurston; Rocklin (pop., 800), Dr. A. M. Stafford; Wheatland (pop., 700), Dr. F. Melton.

NOVEMBER, 1890.

Mortality reports received from 103 localities throughout the State, with an estimated population of 752,739, give the number of decedents as 1,133, being a monthly percentage of 1.55 per 1,000, or an annual mortality at the rate of 18.60 per 1,000, which is the largest death rate we have had for many months. This increase is not due to the prevalence of any particular epidemic, but rather to the increased area of country in which diphtheria, typhoid fever, and acute pulmonary diseases have been present. The mortality from pneumonia, for instance, just doubled that for October, and the deaths from diphtheria and croup were also largely in excess of the preceding month.

CONSUMPTION caused the death of 157 persons, which is an increase over last month.

PNEUMONIA was fatal in 110 instances, which is double the increase over last report.

BRONCHITIS caused 24 deaths.

CONGESTION OF THE LUNGS was fatal in 19 cases.

WHOOPING-COUGH caused 2 deaths.

DIPHTHERIA is credited with 58 deaths, which is a largely increased mortality over last report. Thirty-seven of these deaths occurred in San Francisco, 4 in Alameda, 3 each in Los Angeles and Modesto, 2 in Napa, and 1 each in Bakersfield, Tulare, Visalia, Santa Rosa, Santa Paula, Sausalito, San José, Downey, and Lorin.

CROUP.—The mortality from this disease kept pace with diphtheria, 38 deaths being attributed to it, 23 occurring in San Francisco, 1 each in Calico, Colton, Downey, El Monte, Folsom, Healdsburg, Los Angeles, Santa Ana, San José, Woodland, and 4 in Santa Cruz. In each of these places diphtheria was also reported.

CROLERA INFANTUM was reported as causing 27 deaths, which is a decreased number of deaths from last report.

DIARRHŒA AND DYSENTERY were fatal in 16 instances.

SCARLET FEVER caused 5 deaths; 2 in San Francisco, 2 in Woodland, and 1 in San Diego.

MEASLES caused no deaths.

SMALLPOX caused 1 death in San Francisco.

TYPHO-MALARIAL FEVER was fatal in 2 instances only.

TYPHOID FEVER caused 37 deaths, which is the same number as last month, when the disease began to be more frequently observed.

REMITTENT AND INTERMITTENT FEVERS were fatal in but 4 instances.

CEREBRO-SPINAL FEVER is credited with 8 deaths, which is a slight increase.

ERYSIPELAS caused 3 deaths.

CANCER was fatal in 37 instances, which is an increase over last report.

HEART DISEASES were fatal to 76 persons.

ALCOHOLISM caused 16 deaths.

DEATHS FROM CAUSES not classified in this abstract, 441.

PREVAILING DISEASES.

Reports from over 100 localities in different parts of the State indicate a general increase of sickness throughout. There does not appear to be any epidemic prevailing, if we except a decided frequency of throat affections, especially tonsillitis, membranous angina, and diphtheria. The frequency of diseases of the respiratory system is also noticed, and an apparent tendency to the reappearance of epidemic.

INFLUENZA, now familiarly known as "la grippe," is observed by most of our correspondents. The abnormally dry weather which prevailed during the past month seems to have had a deleterious effect upon the general health, and probably determined that frequency to malaise which everywhere is a subject of complaint.

CROLERA INFANTUM, though usually in abeyance so late in the year, was observed with frequency in many places. It is noticed in reports from Wheatland, Gridley, Redding, Elsinore, Fresno, Visalia, Needles, Martinez, Oakland, Petaluma, San José, and San Francisco.

DIARRHŒA AND DYSENTERY were reported as observed, with some frequency, in Blacks, Santa Paula, Oakdale, Wheatland, Pleasanton, Gridley, Downey, Igo, Redding, Mariposa, Elsinore, San Pedro, Eureka, Shasta, Fresno, Visalia, Bakersfield, Needles, El Monte, Brownsville, Oakland, Mendocino, and San Francisco.

MEASLES.—Some few cases were reported in Sausalito, Pleasanton, San Francisco, and Sacramento.

SCARLET FEVER.—A few cases were reported in San Francisco, Sacramento, Sausalito, Newcastle, Pacific Grove, Santa Cruz, Fresno, College City, Woodland, San Diego, and El Monte. Dr. Manson writes that several cases appeared at Graniteville, in Nevada County, of a mild type.

DIPHTHERIA AND CROUP appear to have been almost universally prevalent, being observed in San José, Santa Rosa, Santa Cruz, Santa Ana, Blacks, Santa Paula, Sausalito, Lockeford, Lodi, Newcastle, Elk Grove, Downey, Sacramento, Folsom, Visalia, Downieville, College City, Middletown, Bakersfield, Truckee, Williams, Colton, Lorin, Los Angeles, Modesto, Merced, Calico, Rio Vista, Napa, Oakland, Alameda, and San Francisco. In San Francisco 255 cases were reported during the month. In Alameda, Dr. John T. McLean thinks the prevalence of the disease is, in the main, owing to the imperfect way quarantine is maintained, and the lack of proper isolation of those sick with the disease. In Anaheim, Dr. Bullard writes that he thinks the disease originated in the school-room of a modern school, where the sewer pipe, imperfectly laid, became obstructed and filled with most offensive matter. On having this removed, the prevalence of sore throat

abated. There is a form of sore throat prevailing, which was recognized in Santa Cruz by Dr. Anderson, which, although resembling in some respects diphtheria, is not that disease, being non-contagious, and accompanied by a marked ulceration of the tonsils, but without the characteristic odor of diphtheria. It is seldom fatal, but as it is a matter of difficulty to tell one from the other, the safer plan is to treat all such cases as diphtheria, and isolate them accordingly. In Stockton, Dr. C. A. Ruggles considers diphtheria as bad a disease in a community as smallpox, and, as Health Officer, treats them with the same sanitary precaution, insisting on isolation and strict quarantine. In this manner he has succeeded in literally "stamping out" the disease wherever it has appeared, thus preventing its extension from the place of its development.

WHOOPING-COUGH was reported as still prevalent in Lockeford and Anderson.

ERYSIPELAS was reported in sporadic form in Newcastle, Gridley, Blacks, Alturas, Ontario, Fresno, Truckee, Brownsville, and Bakersfield.

TYPHOID FEVER was observed in a few instances in Newcastle, Wheatland, Downey, Igo, Redding, Fresno, Bakersfield, Truckee, Cloverdale, Calico, Chico, Grass Valley, Lodi, Los Angeles, Marysville, Oakland, Sacramento, San José, San Francisco, Santa Ana, Tulare, and Watsonville. The dryness of the soil, and consequent lowering of the ground water, does not seem to have had the developing effect upon this disease that Pettenkoffer's theory would lead us to expect, as the cases recorded were all due to local causes, which sanitary efforts might have prevented.

TYPHO-MALARIAL FEVER was present in Wheatland, Knights Ferry, San Pedro, Ontario, Visalia, College City, and Truckee.

REMITTENT FEVER is not prevailing to any extent. It was noted in reports from San Francisco, Oakdale, Wheatland, Redding, Benicia, Lockeford, Shasta, Fresno, Cottonwood, Bakersfield, Truckee, Cloverdale, Chico, and Dixon.

CEREBRAL FEVER.—This disease was reported in sporadic form in Berkeley, Los Angeles, Pacific Grove, San Francisco, Vallejo, Redding, San Pedro, and College City.

PNEUMONIA was quite prevalent everywhere. It was noted in reports from Oroville, San José, Stockton, Haywards, Sacramento, Knights Ferry, Pleasanton, Redding, Blacks, Chico, Anderson, Elsinore, Los Angeles, Visalia, Eureka, Lockeford, Glendora, St. Helena, Cloverdale, Alameda, Berkeley, Brownsville, Etna Mills, Grass Valley, Lincoln, Los Gatos, Oakland, and San Francisco. The disease in many cases was of that low form known as *typhoid pneumonia*, and was particularly fatal when attacking persons beyond the middle period of life. In aged persons its fatality was very marked.

BRONCHITIS was also very prevalent, and was reported by all our correspondents as noticed in their districts.

INFLUENZA was very generally noted in our reports, and many of our correspondents considered that la grippe was again prevailing in their districts. The present influenza, so far as noticed, has failed to develop the intense prostration so very characteristic of the genuine la grippe. It is, however, more than probable that this symptom will not be wanting if the disease continues to increase in intensity.

MUMPS was epidemic in Pleasanton.

VARICELLA was observed in Sacramento.

SMALLPOX, we regret to say, has again been imported into San Francisco, this time from Central America by sea. The disease is epidemic in Guatemala, and may have come from this source. Three cases developed in San Francisco during November, and two since then. This should admonish us of the necessity of insisting that our school children be vaccinated as the law contemplates. This precaution would place our children in a condition to resist an invasion of the disease and prevent any extensive epidemic, if such a disaster threatened us. Of the protective power of vaccination against smallpox, there can be no question. History has again and again proven it, and in the last report of the Health Officer in Ireland, he declares that there was not a single case of the disease reported there within the past year, for the reason that vaccination is compulsory, and every one is brought under the operation of the law.

PACIFIC COAST WEATHER SUMMARY.

The most remarkable feature of the weather for the month is the extraordinary deficiency of rainfall. It is a deficiency which affects the entire Pacific Slope from Mexico to British Columbia. The proximate cause for this deficiency is found in the high latitude of the easterly movement of cyclonic areas from the Pacific Ocean. In spite of the fact that there were a large number of these areas, only one of them passed south of the northern boundary of the United States. This area gave rise to a peculiar secondary cyclonic effect, which passed southward into Nevada, and gave rise to the sudden and rather heavy rains in western Arizona and southern California. This secondary area was forced southward by the rapid formation of a high barometer in Washington and Oregon. A weather record for San Francisco, embracing a period of 42 years, shows that never before within that time has the month of November been so deficient in rainfall. The smallest amounts previously recorded are .15 of an inch in 1862, .25 in 1876, and .26 in 1884. A chart with the storm tracks for November, 1884, shows but 3 cyclonic areas, 2 of which passed eastward north of Washington, and the 3d through the northern portion of that State. This slight deflection to the southward of one of those areas was sufficient to give California a few light showers. The cyclonic areas for November, 1890, have been peculiar, not only for their high latitude, but also for their rapidity of movement, which has tended to increase their number, that is unusually large for the month. The rapidity of movement also explains the large number of days on which light showers fell in Wash-

ington and Oregon (nearly two thirds of the month), and the small total of precipitation. The conditions for rainfall were no sooner formed than a change in the cyclonic circulation drove them away. It is not within the province of this review to discuss the question as to the cause of the extreme northerly movement of the cyclonic areas for this month.

RAINFALL.—It is everywhere deficient, and the amount of such deficiency varies from .06 of an inch at Keeler to 6.15 inches at Olympia. The deficiency increases in amount from south to north, and is especially remarkable north of the 38th parallel. Rain fell on the following dates in Washington: 5th, 11th, 13th, 14th, 17th, 18th, 22d to 24th, 26th to 28th. Oregon, 5th to 8th, 11th, 22d to 27th. California, 5th to 7th, 22d to 25th. Nevada, 6th to 9th. Arizona, 6th to 8th. The heaviest rainfalls in 24 hours were .66 of an inch at Fort Canby on the 8th, and .56 of an inch at San Diego on the 7th. A fall of 2.65 inches was reported from Globe, Arizona, on the 8th. The heaviest monthly rainfalls were .70 of an inch at San Diego and Olympia. The following stations report no rainfall: Walla Walla, Winnemucca, Red Bluff, Sacramento, and San Francisco. Snow is reported as follows: Washington, 6th, Whitman County; Oregon, 6th, Harney County; California, 5th, Plumas, Yuba, and Sierra Counties, 2 to 24 inches; 6th, Ventura County; Nevada, 6th and 8th; Arizona, 8th, on Pinal Mountains.

LOCAL STORMS.—Hail storm at Belotta, Cal., 8th. Thunder storm at Quincy, Cal., 5th. High "northers" occurred in California on the 11th and 12th, during the prevalence of an area of extremely high barometer in northern Nevada, Idaho, and Oregon. The barometer during this time was from .40 to .60 of an inch above the normal. In some places the wind was reported as reaching a velocity of over 60 miles per hour, causing damage to fences, trees, and roofs of buildings. Floods were reported from western Arizona on the 8th, causing high water in the Gila and Colorado Rivers.

TEMPERATURE.—It has been above the normal in all districts. The excess ranges from 3° at Olympia to 12° at Los Angeles. The highest temperature, 96°, occurred at Los Angeles on the 3d. The lowest, 10°, occurred at Winnemucca on the 13th.

Abstract of the Reports of Deaths and their Causes in California during November, 1890.

LOCATIONS AND AUTHORITIES.	Estimated Popula- tion	Total Deaths	Consumption	Acute Pneumonia.	Acute Bronchitis..	Congestion of the Lungs	Diarrhœa and Dys- entery	Cholera Infantum.	Other Diseases of St'mach & Bow'ls	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping-Cough..	Typho - Malarial Fever	Typhoid Fever	Remittent and In- termittent Fevers.	Cerebro - Spinal Fevers.....	Cancer	Erysipelas	Heart Diseases	Alcoholism	Other Causes
Alturas, Dr. J. M. Forrest.	2,250	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Alameda, Dr. John T. McLean.	11,250	18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Anaheim, Dr. J. H. Bullard	2,000	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Antioch, Dr. W. S. George	2,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Anderson, Dr. O. P. Paulding	1,500	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auburn, A. S. Waldo, H. O.	1,600	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Azusa and vicinity, Dr. J. H. Miller.	950	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bakersfield (Oct. & Nov.), Dr. C. A. Rogers	3,200	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Benicia, Dr. E. Gray	2,800	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berkeley, Dr. F. H. Payne	4,000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blacks, Dr. F. M. Stratton	1,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brownsville, Dr. L. C. Crossman	1,600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calico, Dr. A. R. Rheea	1,600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cedarville, Dr. B. Woodbridge	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colton, Dr. M. F. Price	2,500	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood, Dr. J. O. Smith	1,200	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
College City, Dr. C. H. Gibbons	700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloverdale, Dr. R. S. Markell	1,700	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chico and vicinity, Dr. W. King	10,000	19	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Davisville, Dr. W. E. Bates	800	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dixon, Dr. A. Trafton	2,500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Downeyville, Dr. A. Jump	1,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Downey and vicinity, Dr. Q. J. Rowley	2,500	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etna Mills, Dr. E. W. Bathurst	750	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elk Grove, Dr. J. A. McKee	500	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eureka and vicinity, Dr. S. B. Foster	10,000	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elsinore, Dr. T. E. Ellis	1,200	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
El Monte, Dr. F. P. Cave	800	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Hill and vic., Dr. Paul Reudy	3,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fresno, Dr. T. M. Hayden	8,000	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fresno, Dr. B. F. Bates	1,500	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trabalgson, Dr. A. Montague	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wiley and vic., Dr. W. C. Jones.	6,000	4																						

ABSTRACT FOR NOVEMBER, 1890—Continued.

Other Causes	0	2	0	2	1	1	0	0	0	0	1	0	0	0	1	19	2	0	1	2	3	5	4	1	3	1	0	1	0	0	16	2	0			
Alcoholism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Heart Diseases	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0	2	0	1	0	0	0	7	0	0		
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0			
Cancer	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0		
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0		
Typho - Malarial Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Whooping-Cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Croup	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
Other Diseases of St'mach & Bow'ls	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	
Cholera Infantum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0		
Diarrhoea and Dysentery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	2	0	0	
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Acute Bronchitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Pneumonia	0	0	0	1	0	0	0	0	0	0	2	0	0	1	0	0	3	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	9	0	2	1
Consumption	0	1	0	0	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	8	0	0	0	
Total Deaths	0	5	0	5	2	6	6	0	0	0	0	0	0	0	0	0	60	8	0	1	0	0	0	0	0	0	0	0	0	0	0	56	8	0	0	
Estimated Population	500	800	2,500	1,400	1,200	4,000	600	250	600	1,000	1,500	2,000	1,700	1,000	1,200	65,000	4,000	1,500	2,000	2,000	3,000	5,000	3,000	400	750	1,500	60,000	2,000	2,000	56	8	0	0	0		
LOCATIONS AND AUTHORITIES.	Gonzales, Dr. C. A. E. Hertel..... Georgetown and vic., L. D. Markes, H. O. Gridley, Dr. J. T. Harris..... Hanford, Dr. J. A. Davidson..... Haywards, Dr. G. E. Alexander..... Heldsburg, Dr. N. B. Coffman..... Igo, Dr. H. Schafer..... Knights Ferry, Dr. J. H. Lowe..... Lockeford, Dr. E. N. Foote..... Lincoln, Dr. C. Clark..... Lakeport, Dr. S. R. Mather..... Long Beach, Dr. J. W. Wood..... Los Gatos, Dr. F. W. Knowles..... Lorin, Dr. E. J. Ashmore..... Lodi, Dr. E. A. Burchard..... Los Angeles, Dr. G. MacGowan..... Marysville, Dr. D. Powell..... Merced, Dr. E. S. O'Brien..... Middletown, Dr. R. L. Hartley..... Modesto, Dr. W. J. Wilhite..... Mariposa, Dr. W. J. Kearney..... Monterey, Dr. H. W. Faulkner..... Martinez, Dr. J. B. Tennant..... Mendocino, Dr. J. W. Milliken..... Napa, Dr. M. B. Pond..... Nevada City, Dr. F. R. Waggoner..... Newcastle, Dr. M. Schnabel..... Needles, Dr. J. P. Booth..... North San Juan, Dr. G. S. Farley..... North Bloomfield, Dr. J. Manson..... Oakland, Dr. D. D. Crowley..... Oroville, Dr. J. H. M. Karsner..... Orland, Dr. W. Thurston.....																																			

REPORT OF THE STATE BOARD OF HEALTH.

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DECEMBER, 1890.

Mortality reports received from 93 localities in different parts of the State, with an estimated population of 744,169, give the number of decedents as 1,196, being a monthly percentage of 1.67 per 1,000, or an annual mortality of 20.04, which is a higher death rate than that of the preceding month, and the largest death rate we have had since January of last year, when epidemic influenza gave us a like increased percentage of mortality. The increased death rate during December was owing to the increase and fatality of diseases of the respiratory organs, including diphtheria and croup.

CONSUMPTION caused the death of 169 persons, which is an exceptionally large mortality for the month.

PNEUMONIA was credited with 140 deaths, which is a large increase over the deaths in November, when the mortality was considered quite high from this disease.

BRONCHITIS caused 28 deaths, a slight increase over the preceding month.

CONGESTION OF THE LUNGS was reported fatal in 9 instances only.

WHOOPING-COUGH was fatal in but 1 instance.

DIPHTHERIA is credited with 63 deaths, which is an increased mortality over that of November. Thirty-three of these deaths occurred in San Francisco, 6 in Alameda, 9 in Los Angeles, 2 in El Monte, 2 in Oakland, 2 in College City, 2 in Santa Ana, and 1 each in Antioch, Downey, Modesto, Sacramento, Santa Cruz, Sausalito, and Stockton.

CROUP, so closely allied to diphtheria as to be almost synonymous with it, caused 35 deaths. Of these, 20 occurred in San Francisco, 2 each in Los Angeles, Sausalito, San José, Sacramento, College City, and 1 each in Folsom, Haywards, Pasadena, Stockton, and Woodland.

CHOLERA INFANTUM.—The mortality from this disease has decreased, 12 deaths only being attributed to it.

DIARRHŒA AND DYSENTERY were fatal in but 9 instances, which is also a decrease.

SCARLET FEVER caused but 2 deaths, 1 in Eureka and 1 in Sacramento.

MEASLES was fatal in 1 instance.

SMALLPOX caused 3 deaths, all in San Francisco.

TYPHO-MALARIAL FEVER was fatal in 5 instances.

TYPHOID FEVER is credited with 31 deaths, which is a slight decrease from the mortality from this cause last month.

REMITTENT AND INTERMITTENT FEVERS are reported to have caused 5 deaths.

CEREBRO-SPINAL FEVER is credited with 5 deaths.

ERYSIPELAS caused but 3 deaths.

CANCER was fatal in 34 instances.

HEART DISEASE caused 84 deaths.

ALCOHOLISM caused the large number of 28 deaths.

DEATHS FROM CAUSES not classified in this abstract, 478.

PREVAILING DISEASES.

Reports of sickness from 100 localities in different parts of the State indicate a continued increase of sickness. Inflammatory affections of the chest and bowels seem to be particularly prevalent. This is probably owing to the changes in temperature during the month of December, together with the severe storms, and, in many places, damp fogs that were quite trying to many persons.

INFLUENZA was quite prevalent throughout the State. The form is much milder than that of last December, and, as a rule, is less depressing and debilitating. It may, however, take on a severer form during the present month, and increase our mortality returns.

PNEUMONIA was quite prevalent during the month, and of a very fatal character. It was noticed in reports from Ione, Bakersfield, Alameda, Anaheim, Antioch, Azusa, Pleasanton, Salinas, Hollister, Mariposa, College City, Berkeley, Colton, Cottonwood, Chico, Millville, Etna Mills, El Monte, Alturas, Downey, Lakeport, Galt, Redding, Lockeford, Gridley, Downieville, Grass Valley, Haywards, Los Angeles, Modesto, Sacramento, San José, San Francisco, Santa Ana, Santa Rosa, Vallejo, Watsonville, Calico, St. Helena, Biggs, and Stockton. The sudden onset of this disease and the rapidity of its course, mark it as one requiring prompt medical treatment if we would save life. The commonest cause of its development is the transit of the heated body into a cold atmosphere, or, quite as common, is the chilled body introduced into a dry and heated air; in both cases a congestion of the lungs is induced, which may be only temporary, and pass away, or, in those susceptible to inflammatory diseases, may develop into a pneumonia which will speedily terminate life. The preventive measures are, never to go from a hot room into the cold air without the intervention of a woolen or silk muffler over the mouth and nose, through which the air may be warmed before entering the lungs. If we would take the commonest sanitary precautions in our adaptations to changes of temperature, we would escape many affections of our lungs which we now largely invite by gross carelessness and inattention to hygienic rules.

BRONCHITIS prevailed quite as extensively as pneumonia, but its type was not so severe. It was noted as observed in almost every report received, and, in some places, was almost epidemic in form.

WHOOPING-COUGH was noticed in San Francisco, North San Juan, Lincoln, Elk Grove, Sacramento, and Cloverdale. The type of this disease was mild, its persistence being its most notable feature of its presence.

DIPHTHERIA AND CROUP were quite prevalent, being noted in reports from San Francisco, Alameda, Sacramento, Salinas, Los Angeles, Antioch, College City, Lodi, Visalia, Eureka, Benicia, Etna Mills, Elk Grove, Downey, Sausalito, Truckee, Middletown, Pacific Grove, Anaheim, Williams, Lockeford, El Monte, Modesto, Oakland, Ontario, Santa Ana, San José, Stockton, Woodland, Folsom, and San Francisco.

SCARLET FEVER, in a mild form, was observed in Sacramento, Contra Costa County, Blacks, Eureka, Azusa, College City, Middletown, Galt, and San Francisco.

MEASLES was noted in San Francisco, Sacramento, Colton, Pleasanton, and Ontario.

SMALLPOX.—There were a few cases of smallpox in San Francisco during December. There is only one case now in the pesthouse, and he is convalescent. No further trouble is anticipated with the disease, except it is again imported and concealed. San Francisco is so well vaccinated that smallpox can make no headway among its inhabitants. If our vaccination law were enforced, the same might be said of the whole State.

ERYSIPELAS, in sporadic form, was noted in Sacramento, Concord, Salinas, Ontario, Lincoln, Hollister, Truckee, Etna Mills, Cottonwood, Oakdale, Brownsville, Alameda, and Grass Valley. The type was mild, with very limited mortality.

THYROID FEVER did not prevail to the extent we would expect at this season of the year. Sporadic cases were reported in Bakersfield, North San Juan, Salinas, Igo, Mariposa, Visalia, Etna Mills, Lakeport, Redding, Galt, Wheatland, Gridley, Alameda, Fresno, Lake, Los Angeles, Oakland, Orland, Redding, San José, Santa Ana, Santa Barbara, San Diego, Santa Paula, Vacaville, and San Francisco.

TYPHO-MALARIAL FEVER.—A limited number of cases of this disease were reported in College City, San Pedro, Truckee, Redding, Wheatland, Oakland, Fresno, and San Francisco.

REMITTENT AND INTERMITTENT FEVERS are not very prevalent at present. They were noted in reports from Ione, Bakersfield, Visalia, Truckee, Knights Ferry, Wheatland, Los Angeles, Marysville, and Fresno. As these fevers are more or less under the influence of meteorological conditions, we may expect the continuance of cold weather to lessen their prevalence in a marked manner.

CEREBRAL FEVER was reported in a few instances in North San Juan, San Pedro, Downey, Knights Ferry, Wheatland, Anaheim, Gridley, Rocklin, and San Francisco.

We desire this month to call the attention of every Health Officer to the necessity of having all premises containing or having contained cases of infectious disease, properly fumigated and disinfected under their supervision, and to discourage, or, if possible, forbid the holding of a public funeral in every case of scarlet fever or diphtheria. Day by day we are called upon to record cases of disease contracted in this way. A general law should be passed making it a penal offense to fail to notify the public, by some distinctive flag or notice, of the presence of communicative disease, and any one holding a public funeral, where the cause of death is infective, should be severely punished.

PACIFIC COAST WEATHER SUMMARY.

The month of December has been distinguished by the following important features: (1) The extreme southerly movement of the heavy storm of 2d to 5th. (2) Heavy and continuous fogs in Northern California, 7th to 30th. (3) The barometric trough from the Washington coast southeastward to central Nevada attending the storm of 29th and 30th. (4) Heavy storms at sea, off the Washington coast, on 3d, 4th, 14th, 17th, 18th, and 25th. (5) The heavy storm of the 25th, in northern Oregon and Washington, causing much destruction of property in various cities, especially Seattle. (6) Warm weather in southwestern California, 6th to 30th. (7) General deficiency in rainfall. (8) Frosts in Southern California and southern Arizona. (9) The large number of cyclonic areas passing eastward north of Washington. (10) The high barometer in Nevada, 8th to 28th. In connection with the development of fogs during the month, it is important to note that they prevailed during the period of high barometer in northern Nevada. This high pressure began immediately upon the disappearance of the heavy storm in the first week of the month, and was dissipated by the formation of the barometric trough on the 29th and 30th, which latter date marks the termination of the heavy fog period. Under the influence of this high pressure area in northern Nevada, cold northerly winds and fogs prevailed in Northern California, and warm northerly winds in Southern California, which condition illustrates the extreme heating effect of the desert regions of southeastern California upon the air which passes over them.

RAINFALL.—There has been a general deficiency of rainfall, except a slight excess in the San Joaquin Valley and in southern Arizona. Of the eleven cyclonic areas which appeared off Vancouver Island during the month, all passed eastward north of Washington except two, one of which reached southward into the extreme northern portion of California, and the other passed eastward across northern Washington. This high latitude of the eastern movement of the storm areas explains the deficiency in rainfall. The deficiency ranges from .18 of an inch at Keeler to 4.01 at Portland, and is most marked in Oregon. The deficiency in California varies from .43 of an inch at Los Angeles to 1.95 inches at San Francisco. The rainfall at San Francisco during a period of forty-two years has been less than the present amount (3.25 inches) during fourteen previous Decembers. The smallest amount in a period of forty-two years was a trace in 1876. The next smallest amount was .33 in 1874, and .58 in 1865 and 1878. The excess in southern Arizona is .12 of an inch at Yuma and .30 at Fort Grant. The excess in the San Joaquin Valley is 1.02 inches at Fresno. The heaviest rainfall in twenty-four hours was 2.74 inches on the 21st at Olympia, at which station, also, the heaviest monthly rain

(8.10 inches) occurred. Rain fell in Washington 1st to 6th, 10th to 15th, 17th to 25th, 28th to 31st; snow on 20th. Oregon, 1st to 4th, 6th, 10th to 25th, 29th to 31st; snow, 4th, 5th, 30th, 31st. California, 2d to 5th, 10th to 14th, 18th to 20th, 21st, 23d, 25th, 28th to 31st; snow, 2d to 5th, 18th, 19th, 30th, 31st. Nevada, 2d to 5th, 19th, 30th, 31st; snow, 2d to 5th, 8th, 13th, 19th, 20th, 30th, 31st. Arizona, 4th to 6th, 10th, 11th, 18th, 30th, 31st; snow, 5th.

LOCAL STORMS.—Thunder storms: Astoria, Oregon, 19th; Sacramento, 3d; Fort Angeles, Washington, 20th; with snow, hail storms, Sacramento, 3d, Stockton, 30th. The highest wind velocity at Fort Canby was 52 miles southeast 2d, 52 southeast 14th, 60 south 18th, 56 southwest 19th, 64 southwest 21st, 44 south 23d, 48 southeast 10th. At San Francisco the maximum velocity was 43 miles southwest on 3d.

TEMPERATURE.—It has been generally above the normal, except in Northern California, where the deficiency ranges from 1° to 4°. The excess is most marked in Southern California, southern Arizona, and eastern Washington, where the amount ranges from 7° to 9°. The highest temperature, 82°, occurred at Los Angeles on the 26th. The lowest, 12°, occurred at Winnemucca on the 10th and 12th.

Abstract of the Reports of Deaths and their Causes in California during December, 1890.

LOCATIONS AND AUTHORITIES.	072200054100000223012022103000701300																											
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhoea and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population				
Alturas, Dr. J. M. Forrest.....	1																						1	2,250				
Alameda, Dr. John T. McLean.....	23																						23	11,250				
Anaheim, Dr. J. H. Bullard	6																						6	2,000				
Anderson, Dr. O. P. Faulding	0																						0	1,500				
Antioch, Dr. W. S. George	0																						0	3,000				
Azusa and vicinity, Dr. J. H. Miller	2																						2	2,000				
Bakersfield, Dr. C. A. Rogers	5																						5	3,000				
Benicia, Dr. E. Gray	4																						4	2,900				
Berkeley, Dr. F. H. Payne	5																						5	4,000				
Blacks, Dr. F. M. Stratton	0																						0	1,000				
Biggs, Dr. O. C. Hawkins	0																						0	2,000				
Brownsville, Dr. L. C. Crossman	0																						0	800				
Calico, Dr. A. R. Rhea	0																						0	1,600				
College City and vic., Dr. C. H. Gibbons	7																						7	700				
Cedarville, Dr. B. Woodbridge	2																						2	1,500				
Colton, Dr. M. F. Price	8																						8	2,500				
Cottonwood, Dr. J. O. Smith	2																						2	1,200				
Cloverdale, Dr. H. S. Markell	1																						1	1,700				
Chico and vicinity, Dr. W. King	6																						6	10,000				
Downieville, Dr. A. Jump	1																						1	1,000				
Downey and vicinity, Dr. Q. J. Rowley	4																						4	2,500				
Enna Mills, Dr. L. W. Bathurst	2																						2	750				
Elk Grove, Dr. J. A. McKee	1																						1	500				
El Monte, Dr. F. P. Cave	3																						3	800				
Eureka, Dr. S. B. Foster	6																						6	10,000				
Elsinore, Dr. T. E. Ellis	1																						1	1,200				
Forest Hill and vic., Dr. Paul Reudy	16																						16	3,000				
Fresno, Dr. T. M. Hayden	1																						1	9,000				
Folsom, Dr. B. F. Bates	3																						3	1,500				
Galt, Dr. A. Montague	2																						2	2,000				
Grass Valley, Dr. W. C. Jones	7																						7	6,000				
Gonzales, C. A. E. Hertel	0																						0	500				
Girdley, Dr. J. T. Harris	2																						2	1,000				

REPORT OF THE STATE BOARD OF HEALTH.

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JANUARY, 1891.

Mortality reports received from 94 localities in different parts of the State, with an estimated population of 736,100, give the number of decedents as 1,213, being a monthly percentage of 1.64, or an annual mortality of 19.68, which is a fraction lower than the percentage of December, but still much larger than usual. The continued high mortality is attributable to the prevalence of diseases of the respiratory system, the advent of a fresh epidemic of la grippe, with the extensive diffusion of diphtheria and croup.

CONSUMPTION exemplifies the epidemic influence that prevails with the increased mortality of 193 deaths in January.

PNEUMONIA is credited with 138 deaths, about the same as reported in the previous month.

BRONCHITIS caused 47 deaths, which is nearly double that of December.

CONGESTION OF THE LUNGS was fatal in 19 instances.

WHOOPIING-COUGH caused 3 deaths.

DIPHTHERIA was fatal in 65 instances; of these, 38 occurred in San Francisco, 4 in Los Angeles, 3 each in Sacramento, Alameda, Rio Vista, and Santa Cruz; 2 each in Visalia, San José, El Monte, and Napa; and 1 each in Anaheim, Merced, and Santa Ana.

CROUP also shows a mortality of 92, which is a decrease from the report in December of these deaths. Sixteen occurred in San Francisco, 2 in San Diego, 1 each in College City, Long Beach, Napa, and Santa Ana.

CHOLERA INFANTUM is credited with 4 deaths only.

DIARRHŒA AND DYSENTERY likewise caused but 4 deaths, which is a remarkably small mortality, considering the frequency of the disease.

SCARLET FEVER caused but 4 deaths, 2 of them in San Francisco, 1 in San Diego, and 1 in Colton.

MEASLES was fatal in but 1 instance, in San José.

TYPHO-MALARIAL FEVER is credited with but 2 deaths.

TYPHOID FEVER was reported as causing but 20 deaths, which is an exceedingly low mortality for this disease, considering its prevalence. The type is evidently of a mild character.

REMITTENT FEVER caused only 3 deaths.

CEREbro-SPINAL FEVER is credited with 9 deaths, which is a slight increase over last month.

ERYSIPELAS caused 7 deaths, which is an increase over last report.

CANCER was fatal in 37 instances.

HEART DISEASE was credited with 98 deaths.

ALCOHOLISM caused 14 deaths.

DEATHS FROM CAUSES not classified in this abstract, 458.

PREVAILING DISEASES.

Reports received from 94 localities in different parts of the State indicate that sickness is still prevalent, although not more so than in December, if we except those diseases affecting the respiratory system. There is no doubt that inflammatory disease of the lungs prevails extensively throughout the State, and that another epidemic of la grippe is fast developing. The particular feature about epidemic influenza this winter is the great tendency it exhibits to pass from the air tubes into the air cells, thus constituting pneumonia, which in many cases it does so quietly that to an ordinary observer it is unnoticed until death steals upon its victim. As a matter of wise precaution all cases of la grippe should be brought under the notice of a reputable physician before they have advanced to a dangerous stage of the malady, as *latent pneumonia*, which can only be detected by a skilled practitioner, may be advancing. The absence of the usual rainfall in January, together with the cold nights and fogs, seemed to have some influence in determining the frequency of coughs and colds, of which most every one complained. Disorders of the alimentary canal were not so frequently reported as in December, and no zymotic disease prevailed in an epidemic form.

CHOLERA INFANTUM.—Sporadic cases of this disease were reported in Merced, Santa Ana, North San Juan, and Monterey. It is not at all prevalent.

DIARRHŒA AND DYSENTERY were observed with some frequency in Visalia, College City, Knights Ferry, Bakersfield, San Pedro, Brownsville, Needles, Elsinore, Gridley, Kelseyville, Fresno, El Monte, Downey, and San Diego.

SMALLPOX.—A single case was reported from Humboldt County, but no particulars were received as to its origin.

VARICELLA, OR CHICKENPOX, was reported in Mariposa and Sacramento.

MEASLES was prevalent during the month in Pleasanton, Williams, Lockeford, Vacaville, Fresno, Alturas, Downey, Merced, Santa Cruz, San José, and Sacramento.

SCARLET FEVER was reported in San Diego, Hollister, Sacramento, San Francisco, Colton, Oakdale, El Monte, Napa, Middletown, Santa Cruz, Pacific Grove, Dixon, College City, and Modesto. In San Diego Dr. T. L. Magee reports that the disease was very mild, and that among the 84 cases notified at the Health Office only one death occurred. In Dixon the disease was almost epidemic, but no fatality resulted from it.

DIPHTHERIA AND CROUP.—Sporadic cases of these diseases were observed in many localities—Visalia, Eureka, Truckee, Napa, Azusa, Santa Ana, Downey, Los Angeles, San Diego, College City, San Luis Obispo, Anaheim, Sacramento, San José, San Francisco, Fresno, Mariposa, Pacific Grove, Santa Cruz, Modesto, Merced, Lodi, El Monte,

and Alameda. The disease reported by the press in Antelope Valley consisted in a limited outbreak in one family, the mother and three children being seized with it. According to the report of Dr. Fife, the disease was exceptionally malignant, proving fatal to the three children, the mother recovering. The source of the disease was supposed to be a child living in Antelope that died suddenly of some throat trouble, the nature of which was not known. From this the lesson may be learned that the simplest sore throat requires attention, as what may seem to be quite innocent in its nature may give rise to the most malignant and fatal disease. At the International Medical Congress the question was asked, "How long can a diphtheritic patient furnish infectious excretions?" In reply to this it was stated that excretions were found infectious three weeks after apparent recovery, and pieces of membrane yielded cultures fourteen weeks after discharge from the throat. Children having had the disease should therefore be kept from school for at least four weeks after recovery, and every article of apparel worn by them should be thoroughly disinfected. All doubtful cases of throat disease should be treated as diphtheritic until the contrary is clearly shown; by this means a danger would be averted that under any course might be imminent.

WHOPING-COUGH is abating; a few cases were observed in Sacramento.

Erysipelas was reported in Sacramento, College City, Knights Ferry, Bakersfield, Etna Mills, Fresno, Downey, San Francisco, Dixon, and Modesto. The type was generally mild.

TYPHOID FEVER is not prevalent in any part of the State. Some sporadic cases were reported in San Francisco, Eureka, Bakersfield, Etna Mills, Igo, Lockeford, Santa Ana, Fresno, Sacramento, Merced, Calico, El Monte, and Cedarville. The type is mild so far as heard from.

TYPHO-MALARIAL FEVER was reported in Visalia, College City, Knights Ferry, Redding, Oakdale, San Pedro, Cottonwood, Galt, Gridley, Merced, and Wheatland.

CEREBRAL FEVER.—Sporadic cases of this disease were observed in Redding and Napa.

PNEUMONIA was reported as present in Eureka, Pleasanton, Biggs, Bakersfield, Igo, Etna Mills, Truckee, Benicia, Redding, Brownsville, Lockeford, San José, Galt, College City, Anderson, Watsonville, Gridley, San Luis Obispo, Anaheim, Fresno, Alturas, Shasta, Dixon, Wheatland, Merced, San Francisco, Alameda, Oakland, and Sacramento.

BRONCHITIS was prevailing to a greater or less extent in every precinct heard from.

INFLUENZA appears in almost every report. In some places it is quite epidemic, and partakes of all the characteristics of la grippe, being attended by debility and great prostration. In many cases it is preliminary to a low form of pneumonia, which is said to be particularly fatal, owing to the depressing influences of the accompanying influenza.

PACIFIC COAST WEATHER SUMMARY.

The month of January has been notable for the following important features: (1) The high latitude of the easterly movement of cyclonic areas. (2) Although the approximate paths of 8 cyclones have been charted for the month, in no case did the center of any storm reach southward into Washington. (3) The marked deficiency in precipitation throughout the Pacific Coast States. (4) General increase in temperature in all districts, especially in Washington. (5) The periods of fair weather in Washington and Oregon from the 7th to the 14th, and from the 19th to the 23d, when this region was occupied by an anti-cyclone. (6) The slow movement of the cyclonic areas of the month, especially the storm of the 14th to 19th, which required nearly 5 days to pass eastward beyond Washington. (7) The period of high northerly winds in California from the 25th to 30th, when the velocities ranged from 25 to over 40 miles per hour at many places. During this time an anti-cyclone was central on the northwest coast of California and the southwest coast of Oregon. (8) The peculiar development of the cyclone of the 29th to 31st. This storm appeared to remain almost stationary over British Columbia, but with a remarkable influence in diminishing barometric pressure to the southward, without apparently changing the location of its center. The barometer fell slowly but constantly for three days, from Mexico to British America, culminating on the night of the 31st in light rains, with snow in mountains in California, Nevada, Oregon, and Washington. (9) The development of a huge waterspout off the mouth of the Columbia River on the 5th in the southeast current of the cyclone then central off Vancouver's Island. This cyclone first appeared on December 31st last, and remained in the vicinity of Washington until January 6th. The waterspout was reported as of remarkable size and power, moving from southwest to northeast, attended by a loud, roaring noise. It seemed to possess the characteristics of a veritable tornado, and would undoubtedly have caused considerable destruction to property, and perhaps life, if it had passed over the land. (10) The heavy and continuous gales off the Washington coast, especially from the 14th to the 19th, during which time the average daily maximum velocity at Fort Canby was nearly 50 miles per hour. (11) The heavy rains, turning to snow in mountains, in Southern California and southern Arizona on the 23th and 29th, resulting from the high northerly winds and low temperatures—San Diego 1.08 inches of rain and Fort Grant 3 inches of snow.

RAINFALL.—The rainfall has been deficient in all districts, especially in Northern California and western Oregon. The deficiency ranges from .25 of an inch at Keeler to 7.78 inches in Eureka, 4.57 inches at Red Bluff, and 4.08 inches at San Francisco. The rainfall at San Francisco has not been so small since 1852, when the amount reported was .58 of an inch. In 1851 the amount was .72 of an inch. The rainfall for January, 1891, is .98 of an inch. In January, 1862, there was recorded 24.36 inches—the heaviest rainfall ever

reported for San Francisco. The largest monthly rainfall was 6.60 inches, at Fort Canby. No rain fell at Keeler and Yuma. The heaviest rainfall in 24 hours was 1.08 inches at San Diego on the 28th and 29th. Rain fell on 22 days in Washington; in Oregon, 24 days of rain and 5 days of snow; in California, 19 days of rain and 13 of snow; Nevada, 10 days of rain and 17 days of snow; in Arizona, 4 days of rain and 4 days of snow. Local storms: Astoria, Oregon, 2d, thunder, lightning, and hail.

TEMPERATURE.—It has been above the normal in all the districts except northern Nevada, where the deficiency is only 1° at Winnemucca. The excess is most marked in Washington, northern Oregon, and southwestern California, where it ranges from 4° to 13°. The highest temperature, 80°, occurred at Los Angeles, 23d. The lowest, 18°, at Halleck and Carlin, Nevada, 10th.

Abstract of the Reports of Deaths and their Causes in California during January, 1891.

Other Causes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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REPORT OF THE STATE BOARD OF HEALTH.

ABSTRACT FOR JANUARY, 1891—Continued.	
LOCATIONS AND AUTHORITIES.	
Hanford, Dr. J. A. Davidson.....	1,500
Haywards, Dr. G. E. Alexander.....	1,200
Healdsburg, Dr. N. B. Coffman.....	4,000
Hollister, Dr. J. H. Tebbetts.....	1,500
Igo, Dr. H. Schafer.....	600
Ione and vicinity, Dr. A. L. Adams.....	1,800
Knights Ferry, Dr. J. H. Lowe.....	250
Lockeford, Dr. E. N. Foote.....	500
Lincoln, A. C. Fleming, H. O.....	1,000
Lake County, Dr. S. R. Mather.....	7,000
Long Beach, Dr. J. W. Wood.....	2,000
Lodi, Dr. E. A. Burchard.....	1,200
Lorin, Dr. E. J. Ashmore.....	500
Los Angeles, Dr. G. MacGowan.....	60,000
Marysville, Dr. D. Powell.....	5,000
Merced, Dr. E. S. O'Brien.....	2,500
Mariposa, Dr. W. J. Kearney.....	1,000
Middletown, Dr. R. E. Hartley.....	1,500
Monterey, Dr. O. S. Trimmer.....	3,000
Napa, Dr. M. B. Pond.....	5,000
Nevada City, Dr. F. R. Waggoner.....	5,000
Needles, Dr. J. P. Booth.....	700
North San Juan, Dr. G. S. Farley.....	500
Oakland, Dr. D. D. Crowley.....	60,000
Oakdale, Dr. R. H. Endicott.....	1,000
Oroville, Dr. J. H. M. Karnser.....	1,000
Orland, Dr. W. Thurston.....	2,000
Pasadena and vicinity, Dr. H. H. Sherk.....	3,500
Petaluma, Dr. L. H. Patty.....	10,000
Pleasanton, Dr. W. H. Cope.....	8,000
Rio Vista, Dr. S. C. Brown.....	1,200
Redding, Dr. F. P. Mitchell.....	1,900
Riverside, Dr. W. B. Sawyer.....	3,000
	5,000
Total Deaths	2 5 4 0 5 1 0 6 2 1 0 3 8 7 2 3 0 3 4 2 1 0 8 7 2 0 2 72 1 1 1 9 5 2 2 1 0 3 10 9
Estimated Population	1,500 1,200 4,000 1,500 600 1,800 250 500 1,000 7,000 2,000 1,200 500 60,000 5,000 2,500 1,000 1,500 3,000 5,000 5,000 700 500 60,000 1,000 2,000 3,500 10,000 8,000 1,200 1,900 3,000 5,000
Other Causes	1 1 3 0 0 1 0 1 0 4 1 0 2 3 3 3 3 0 4 1 0 0 28 0 0 0 0 2 1 1 2 0 4 2
Alcoholism.....	0 0
Heart Diseases	0 0 0 0 2 0 0 1 1 0 0 0 8 0 0 1 0 0 0 0 0 0 1 0 0 8 0 0 0 2 0 0 0 0 1
Erysipelas.....	0 1 0 0 0 0 0 0 0 0 0 0
Cancer	0 0 0 0 0 0 0 0 0 1 0 0 0 2 0 0 0 0 0 0 0 0 5 1 0 0 0 0 0 0 0 0 0
Cerebro - Spinal Fevers.....	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 3 0 0 0 0 0 1 0 0 1 1
Remittent and Intermittent Fevers.....	0 1 0 0
Typhoid Fever.....	0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
Typho - Malarial Fever.....	0 0
Whooping-Cough.....	0 1 0 0 0 0 0 0 0 0 0 0
Smallpox.....	0 0
Measles.....	0 0
Scarlet Fever	0 0
Croup.....	0 0 0 0 0 0 0 0 1 0
Diphtheria.....	0 0 0 0 0 0 0 0 0 0 0 0 4 0 1 0 0 0 0 0 2 0 0 0 0 0 0 0 0 3 0 0 0
Other Diseases of St'mach & Bow'ls.....	1 0 1 0 0 0 0 0 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
Cholera Infantum.....	0 0
Diarrhoea and Dysentery.....	0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
Congestion of the Lungs.....	0 1
Acute Bronchitis.....	0 0 0 0 0 0 0 0 0 0 0 0 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Acute Pneumonia.....	0 2 0 0 0 1 0 0 0 0 0 1 0 10 3 2 3 0 0 0 0 2 2 0 0 0 0 0 0 0 0 0 0 0
Consumption.....	0 1 0 0 0 2 1 0 0 0 0 0 22 10 3 2 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

REPORT OF THE STATE BOARD OF HEALTH.

[illegible]

FEBRUARY, 1891.

Mortality reports received from 85 localities in different parts of the State, with an estimated population of 721,991, give the number of decedents as 1,150, being a monthly percentage of 1.66, or an annual mortality of 19.92, which is a higher percentage than that of January, and shows a continued high death rate for California. This must be attributed to the great prevalence of diseases of the respiratory system, as with the exception of diphtheria, croup, and influenza, no infectious zymotic disease is prevailing.

CONSUMPTION caused 167 of these deaths, which is a decrease of 26 from the mortality of this disease in January.

PNEUMONIA increased its death rate from 138 deaths in January to 160 in February.

BRONCHITIS caused 44 deaths, which is also a high mortality from this disease.

CONGESTION OF THE LUNGS was credited with 18 deaths.

WHOOPIING-COUGH was fatal in 4 instances.

DIPHTHERIA is credited with 61 deaths. Of these 38 occurred in San Francisco, 6 in Red Bluff, 4 in Napa, 2 each in Oakland, Los Angeles, Azusa, College City, and Hanford, and 1 each in Modesto, National City, and San José.

CROUP caused 26 deaths—23 in San Francisco, 1 each in El Monte, San José, and Sacramento.

CHOLERA INFANTUM was the cause of only 1 death, which is an evidence of its almost complete absence from the State.

DIARRHOEA AND DYSENTERY are likewise to be noted by their absence, 3 deaths only being recorded from them.

SCARLET FEVER, although quite prevalent in a mild form, caused no deaths.

MEASLES caused 4 deaths in Stockton.

SMALLPOX is absent from the State.

TYPHO-MALARIAL FEVER has only 2 deaths credited to it.

TYPHOID FEVER had the remarkably small mortality of 7 attributed to it. Six of these deaths occurred in San Francisco and 1 in Napa. The limited death rate from this disease may perhaps be attributed to the cleansing of foul sewers and filthy places by the copious rains which visited us during the month. In all events, it is worthy of note.

REMITTENT FEVER caused only 1 death.

CEREBRO-SPINAL FEVER is credited with 7 deaths.

ERYSIPELAS was fatal in but 2 instances.

CANCER caused 33 deaths.

HEART DISEASE was fatal in 100 cases.

ALCOHOLISM caused 9 deaths.

DEATHS FROM CAUSES not classified in this abstract, 445.

PREVAILING DISEASES.

Reports of sickness received from 96 localities in different parts of the State continue to indicate an abnormal amount of illness from those diseases affecting the respiratory system. The bowel disorders, which were so prominent a feature in previous reports, seem to have, in a great measure, subsided, being infrequently mentioned in our disease returns. Even cholera infantum remains unreported. The rainfall being copious during the month, had the salutary effect of flushing and washing the choked drains and sewers, carrying away much decomposing organic matter, the most prolific source of alimentary disorders. To it may be attributed the improved health of the community in its relation to bowel diseases, but how much the increased humidity has contributed to the prevalence of influenza and other diseases of the chest and lungs, it may be difficult to conjecture.

PNEUMONIA prevailed almost everywhere throughout the State. It was reported in some localities as partaking of an epidemic character, and in several instances appeared to be really infectious. One of our Health Officers reports an instance in which the father, mother, brother, and two sisters took the disease, one after the other, in the same house, both parents dying. It was noted in San Francisco, Oakland, Sacramento, Los Angeles, San José, Stockton, Marysville, Grass Valley, Downieville, Red Bluff, Etna Mills, Shasta, Modesto, Merced, San Diego, National City, Salinas, Kelseyville, Watsonville, Middletown, Redding, Truckee, Needles, Pleasanton, Alameda, Downey, Roseville, Hanford, Auburn, Anaheim, Benicia, Bakersfield, Jackson, and Fresno.

BRONCHITIS also prevailed to an alarming extent. The type, however, was not of a serious character, its universality being the most distinguishing feature of its presence.

WHOOPIING-COUGH was reported in Sacramento, Elk Grove, Etna Mills, Truckee, Rocklin, Sausalito, San Francisco, Oakland, Salinas, Marysville, and Davisville.

DIPHTHERIA AND CROUP were also reported as present during the month in Sacramento, San Francisco, San José, Fresno, Napa, Modesto, Elk Grove, Hanford, College City, Azusa, Los Angeles, Red Bluff, El Monte, Truckee, Sausalito, Rio Vista, National City, and Merced. We believe that the spread of this disease might be materially lessened if the public could be taught to look upon it as it does upon smallpox, and take the same precautions in isolating its victims as it does those of the more loathsome disease, which, while disagreeable to wait upon, is not half so deadly in its results as the diphtheritic poison. Another point upon which it might be well to inform the public is, that where an infectious or contagious disease occurs in a home, and the washing of the patient's bedding or clothing is sent away to be washed without first having them thor-

oughly disinfected, and the washerwoman or any of her family thereby become infected, they can recover damages in a Court of law, if not previously notified or warned that the clothing is infected. A few successful suits of this kind would engender caution and a realization of the fact that public protection must be afforded against infectious disease.

SCARLET FEVER was quite prevalent during the month in many parts of the State. This is a disease that can be effectually quarantined against. Dr. M. F. Price, our Health Officer at Colton, writes: "The epidemic of scarlet fever with which we were threatened the first of the month was *effectually prevented* by strict isolation and quarantine. Only the first four cases occurred. The wisdom of the State and city health laws, with an officer empowered to enforce them, was fully demonstrated in this instance." Dr. T. L. Magee, Health Officer at San Diego, says: "Scarlet fever has almost entirely disappeared by strict isolation and quarantine of those affected." In the southern portion of Sacramento a public school had to be closed, the disease became so prevalent. In this disease, as in smallpox, the poison is given off from the bodies of the sick, and as we have no knowledge of any mode of protection corresponding with vaccination, the obvious means, therefore, of avoiding contagion, is to keep out of reach of the infection by the sick, or of articles infected by them. The difficulty of doing this can be estimated when we learn of the persistence of the vitality of the poison. It is communicable during the whole of the illness and convalescence of the patient. Infected clothing that has been packed away for months may communicate the disease and the instances are numerous where the infection has been carried long distances from the sick by healthy persons who have recently come in contact with scarlet fever. All these facts point to the most rigid exclusion of susceptible children from every possible source of infection.

MEASLES was epidemic in Stockton. Dr. C. A. Ruggles writes that in 20 years he does not remember hearing of so large a mortality in February. It was also noted in Davis, Sacramento, Alturas, Dixon, Lockeford, Redding, Williams, Sausalito, Downey, Benicia, Red Bluff, Fresno, and Cedarville.

ERYSIPELAS.—Sporadic cases of this disease were noted in Modesto, Elk Grove, Anaheim, College City, Knights Ferry, Needles, Williams, Sausalito, Downey, Bakersfield, Salinas, Red Bluff, Fresno, and Newcastle.

TYPHOID FEVER is not prevalent in any portion of the State. San Francisco reports some, and sporadic cases were noted in National City, Etna Mills, Napa, El Monte, Redding, Vacaville, Bakersfield, Salinas, and Wheatland.

TYPHO-MALARIAL FEVER was reported in College City, National City, San Diego, Igo, Cottonwood, Bakersfield, Salinas, Wheatland, Fresno, Gonzales, Lodi, San Francisco, and Galt.

CEREBRAL FEVER.—Sporadic cases of this disease were noticed in North San Juan, Galt, Fresno, Grass Valley, San Diego, San Francisco, Watsonville, and Sacramento.

REMITTENT FEVER was present in Shasta, Lockeford, Knights Ferry, Lodi, Anderson, Truckee, Gridley, Red Bluff, Wheatland, and Oakland.

INFLUENZA, or LA GRIFFE, has, since the last report, developed into a widespread epidemic, equaling, if not exceeding, that which prevailed during the winter of 1889-90. That it spreads by atmospheric influence may be inferred from its rapid diffusion from place to place without any known intermediate intervention of contagion by external media. The present epidemic may be characterized by its sudden onset. The intensity of its initiatory symptoms, the premonitory chill, the fever, headache, backache, pains in the bones and muscles that more nearly resemble *dengue*, or backbone fever, than any other disease we can remember. Another feature peculiar to the present epidemic is the frequency with which cases occur in which the cough is almost entirely absent, and others in which pneumonia of a low type is almost certain to be developed. The debility accompanying the disease is invariably present, and must be treated by stimulants liberally given. The origin of the disease being unknown, the power of the sanitarian over it is exceedingly limited, and consists chiefly in advising the avoidance of all depressing influences that might deteriorate the healthy constitution or impair its strength.

PACIFIC COAST WEATHER SUMMARY.

The month of February has been distinguished by the following important features: (1) The southerly movement of three cyclonic areas which passed eastward through central Oregon, giving rise to the heavy rains, high winds, and high temperatures of the month in California and Nevada. (2) The violent cyclone of February 20th to 24th, which gave rise to remarkably high and destructive winds, heavy rains, and the lowest barometer readings for many years—Baker City, 28.94 inches; San Francisco, 29.10; Red Bluff, 29.02; Fresno, 29.32; Fort Canby, 29.06. (3) Seven cyclonic areas came within the limits of the Signal Service charts during the month, 4 of which passed eastward north of Washington. (4) The anti-cyclone of the 1st to 4th, which gave rise to a severe cold wave in Washington and Oregon, producing the lowest temperatures of the month—Baker City, Oregon, 12° below zero. This cold wave extended southward into Nevada and eastern California on the 4th—Halleck, Nevada, 14° below zero. (5) The anti-cyclone of 7th to 9th, which gave rise to the severe "norther" of the 8th in California; this anti-cyclone was attended by the lowest temperatures of the month in California and Nevada, and destructive winds in California, especially in the southern portion—Halleck, Nevada, 23° below zero on the 9th. Heavy sand storms and killing frosts, with the blowing down of some buildings, attended the "norther" in Southern California.

(6) The high southerly winds, high temperatures, and heavy rains of the 12th to 17th, 20th to 24th, and 26th to 28th, in Northern California and Nevada. (7) From the 9th to the last day of the month the presence of a cyclonic disturbance was manifest without cessation off Vancouver Island.

RAINFALL.—The rainfall has been in excess of the normal in all districts except western Washington and northwestern Oregon. The long spell of drought was broken on the 14th, and in the last half of the month enough rain has fallen to carry the amount decidedly beyond the normal in southern Oregon, California, and Arizona. If this large precipitation could have been distributed over the month, much less damage would have resulted to property and greater benefits derived from the greatly needed moisture. The excess varies from .19 of an inch at Winnemucca to 4.84 inches at Los Angeles, 6.83 at Red Bluff, and 6.78 at Roseburg. The deficiency ranges from .19 of an inch at Fort Canby to 3.55 inches at Olympia. The rainfall at San Francisco has been exceeded in 6 other years during the past 40 years; the largest amount, 12.52 inches, occurred in February, 1878, and the next largest amount, 9.24 inches, in 1887. The largest monthly rainfall was 11.50 inches at Roseburg. The greatest in 24 hours was 3.80 inches at Red Bluff on the 14th. Rain fell on 23 days in Washington, on 26 days in Oregon, on 25 days in California, on 22 days in Nevada, and on 10 days in Arizona.

LOCAL STORMS.—Thunder storms, Eureka, 17th, Gilroy, 24th, Vacaville, 25th. Buildings struck by lightning, Shasta County, 18th. Hail, Eureka, 17th, San Francisco, 24th, Astoria, 6th, 19th, Shasta County, 18th. Winds of over 30 miles per hour have occurred on 2 days at Eureka, 5 days at Fort Canby, 6 days at San Francisco, Red Bluff, and Sacramento, and 14 days at Winnemucca.

TEMPERATURE.—It has been almost stationary in all districts, with a slight excess of 1° to 2° in northern Nevada, western Arizona, and southwestern California. The deficiency ranges from 4° at Keeler to 3° at Red Bluff and Olympia, and 1° at Eureka, Fort Canby, and Spokane Falls. The highest temperature, 74°, occurred at Yuma on the 7th and 14th. The lowest, 23° below zero, occurred at Halleck, Nevada, on the 9th, Baker City, 12° below, on the 2d.

Abstract of the Reports of Deaths and their Causes in California during February, 1891.

Other Causes	4	2	3	3	2	3	2	1	3	0	0	0	0	1	5	2	1	2	2	0	1	3	2	0	0	1	3	4	0	3	0	0	2	0	1
Alcoholism	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heart Diseases	2	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0	
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Cancer	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Typho - Malarial Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Whooping-Cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Croup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Diphtheria	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Other Diseases of St'mach & Bow'ls	3	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Cholera Infantum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Diarrhœa and Dysentery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Congestion of the Lungs	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Bronchitis	2	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Pneumonia	2	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Consumption	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Deaths	14	3	3	2	8	6	3	5	5	3	1	2	1	1	0	8	0	1	2	0	1	0	1	0	0	0	1	0	2	0	2	0	1	1	1
Estimated Population	11,250	2,000	1,500	1,600	2,000	3,100	2,900	4,000	4,700	2,000	500	1,250	10,000	1,000	2,000	2,500	750	800	10,000	10,000	6,000	500	1,500	1,500	1,200	4,000	800	2,600	500	7,000	2,000	1,200	1,200		
LOCATIONS AND AUTHORITIES.	Alameda, Dr. John T. McLean.	Anaheim, Dr. J. H. Bullard.	Anderson, Dr. O. P. Paulding.	Auburn, A. S. Waldo, H. O.	Azus and vicinity, Dr. J. A. Miller.	Bakersfield, Dr. C. A. Rogers.	Benicia, Dr. E. Gray.	Berkeley, Dr. F. H. Payne.	College City, Dr. C. H. Gibbons.	Colton, Dr. M. F. Price.	Concord, Dr. F. F. Neff.	Cottonwood, Dr. J. O. Smith.	Chico and vicinity, Dr. W. King.	Davisville, Dr. W. E. Bates.	Dixon, Dr. A. Trafton.	Downey and vicinity, Dr. Q. J. Rowley.	Etma Mills, Dr. L. W. Bathurst.	El Monte, Dr. F. P. Cave.	Eureka, Dr. S. B. Foster.	Fresno, Dr. T. M. Hayden.	Grass Valley, Dr. W. C. Jones.	Gonzales, Dr. C. A. E. Hertel.	Gridley, Dr. J. T. Harris.	Hanford, Dr. J. D. Davidson.	Haywards, Dr. G. E. Alexander.	Healdsburg, Dr. N. B. Coffman.	Igo, Dr. H. Schafer.	Jackson, Dr. E. B. Robertson.	Knights Ferry, Dr. J. H. Lowe.	Lockeford, Dr. E. N. Foote.	Lake County, Dr. S. R. Mather.	Long Beach, Dr. J. W. Wood.	Lodi, Dr. E. A. Burchard.		

ABSTRACT FOR FEBRUARY, 1891—Continued.

LOCATIONS AND AUTHORITIES.	Other Causes																									
	26	1	3	2	4	1	1	1	29	1	1	1	0	6	3	1	0	1	0	0	0	0	21	5	9	221
Los Angeles, Dr. G. MacGowan	65,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marysville, Dr. D. Powell	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modesto, Dr. W. J. Wilhite	2,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monterey, Dr. S. H. Smith	1,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Napa, Dr. M. B. Pond	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National City, Dr. J. W. Keene	1,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newcastle, Dr. J. M. Schnabel	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oakland, Dr. D. D. Crowley	60,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oakdale, Dr. R. H. Endicott	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oroville, Dr. J. H. M. Karsner	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oroville, Dr. J. H. M. Karsner	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pasadena and vicinity, Dr. H. H. Sherk	3,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Petaluma and vicinity, Dr. L. H. Patty	8,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleasanton, Dr. W. H. Cope	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Bluff and vicinity, Dr. J. M. West	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redding, Dr. F. P. Mitchell	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood City, County Recorder	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rocklin, Dr. A. M. Stafford	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roseville, Dr. W. W. Finney	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sacramento, Dr. H. L. Nichols	30,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salinas City, Dr. May Gydson	2,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Diego, Dr. T. L. Magee	16,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Francisco, Dr. J. W. Keeney	300,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San José, Dr. J. R. Curnow	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Ana and vicinity, Dr. J. G. Bailey	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Barbara, Dr. R. F. Winchester	5,849	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Maria, Dr. M. Thornberg	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Cruz, Dr. C. L. Anderson	7,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Rosa, Dr. J. S. Sargent	5,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Monica, Dr. E. C. Folsom	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Selma, Dr. E. E. Brown	1,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockton, Dr. C. A. Ruegles	14,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suisun, Dr. J. W. B. Reynolds	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Deaths	80	5	7	1	1	1	0	0	17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Consumption	20	0	1	1	1	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute Pneumonia.	17	2	0	1	1	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute Bronchitis..	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congestion of the Lungs	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhoea and Dysentery	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cholera Infantum.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Diseases of St'mach & Bow'ls	5	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria	2	0	1	0	4	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Croup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whooping-Cough..	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Typho - Malarial Fever.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cerebro - Spinal Fevers.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cancer	1	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heart Diseases	6	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alcoholism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Causes	26	1	3	2	4	1	1	1	29	1	1	1	0	6	3	1	0	1	0	0	0	21	5	9	221	13

[illegible]

MARCH, 1891.

Reports of mortality received from 86 localities in different parts of the State, with an estimated population of 681,497, give the number of decedents as 1,251, being a monthly percentage of 1.83 per 1,000, or an annual mortality of 21.96, which is the largest death rate in any single month that has been recorded for years. This increase in the monthly percentage may be more apparent than real, owing to the correction of the estimated population in those towns and cities reported by the Census Bureau this month. When the population of all the towns is officially declared we will be able to get closer to the actual death rate in California than we are at present.

CONSUMPTION caused 188 deaths, which is above the average mortality from this cause. PNEUMONIA was fatal in 168 instances, which is above the mortality in January or February, and the largest number yet reported in any single month.

BRONCHITIS caused 38 deaths, which is a slight decrease from the mortality in February. CONGESTION OF THE LUNGS was credited with 21 deaths.

WHOOPIING-COUGH, although quite prevalent, caused but 4 deaths.

DIPHTHERIA is reported to have caused 68 deaths. Of these 49 occurred in San Francisco, 2 each in Chico, Folsom, Modesto, Napa, Oakland, and Orland, and 1 each in Alameda, Berkeley, El Monte, Los Angeles, Pasadena, Pomona, and Visalia.

CROUP had a fatality of 20. Fourteen were reported from San Francisco, and 1 each from Azusa, Newcastle, Pasadena, Watsonville, San José, and Sacramento.

CHOLERA INFANTUM caused 3 deaths, which is conclusive evidence that the disease is not prevalent.

DIARRHŒA AND DYSENTERY were reported as causing 15 deaths, which is quite an increase over the preceding month, when 3 deaths only were recorded from these causes.

SCARLET FEVER, although quite prevalent in many places, is only credited with 3 deaths, which is reliable evidence of the mild character of the disease.

MEASLES is also reported as causing only 3 deaths, from which a like inference as to the type of the disease may be drawn.

TYPHO-MALARIAL FEVER caused no deaths.

TYPHOID FEVER was fatal in 15 instances, a slight increase over the mortality from it last month.

REMITTENT FEVER is credited with 4 deaths.

CEREBRAL FEVER.—Nine deaths were attributed to this disease.

ERYSIPELAS was fatal in 7 instances.

CANCER caused 33 deaths.

HEART DISEASE was fatal in 95 cases.

ALCOHOLISM caused 21 deaths.

DEATHS FROM CAUSES not classified in this abstract, 431.

PREVAILING DISEASES.

Reports of sickness received from 98 localities in different parts of the State show a tendency to abatement in all hitherto prevailing diseases. The lessened rainfall and the increased temperature during the month had a salutary influence in diminishing the prevalence of pulmonary diseases, although the frequency and fatality of pneumonia was exceptionally great for March. We find an increasing number of reports of diseases of the alimentary canal, although cholera infantum does not figure among them. Dysentery was quite noticeable in many localities, but of a mild type.

CHOLERA INFANTUM, where mentioned, was only reported in sporadic form.

DIARRHŒA AND DYSENTERY were reported of frequent occurrence in Bakersfield, Elnore, Fresno, Needles, Santa Paula, Hopland, Merced, Santa Rosa, College City, Sacramento, Visalia, Igo, Oakdale, Etna Mills, El Monte, Jackson, Los Angeles, Modesto, Marysville, San José, Eureka, and San Francisco.

VARICELLA, OR CHICKENPOX, reported in Sacramento and Mariposa.

MEASLES was reported as present in Sacramento, Redding, Vacaville, Lodi, Dixon, College City, Williams, Lockeford, Anaheim, Merced, Fresno, Sausalito, Alameda, Oakland, and San Francisco.

SCARLET FEVER in a mild form was observed in many places, among the number being Sacramento, Alturas, Stockton, Santa Cruz, Dixon, and San Francisco.

DIPHTHERIA AND CROUP still continue to be the scourge of young life, and claim as victims many of the healthiest children as well as the weakest. The direct cause remains still a mystery. After the most careful research, made by the local Government Board, in England, Dr. Buchanan, the Chief Medical Officer, says: "This disease has appeared to prevail under every variety of associated conditions. As usual, it has been accompanied, or its outbreak has been preceded by, abundant cases of apparently innocent sore throat. Neither has the approximate cause of diphtheria become any more apparent from the various bacteriological investigations that have been made," although all observers agree that the disease is owing to a bacillus, the identity of which is yet undiscovered. It is also agreed that its growth is favored in the presence of dampness and the absence of light, and that dryness, sunlight, and cleanliness are inimical to it. The view is also gaining ground that the disease is local before becoming general. If this conception is established it magnifies the importance of using disinfectant gargles and washes, and the absolute necessity of isolation, with strict cleanliness, accurate disinfection, with early and skilled treatment, if we would hope to limit or prevent the disease. Professor Löffler declares it as his opinion that the disease affecting pigeons, calves, pigs, turkeys, etc.,

which resembles diphtheria, is not caused by the bacillus of human diphtheria, and that those diseases in the lower animals are therefore not to be feared as sources of the human affection. Klein, however, believes that etiologically they are the same, and should be looked upon as transmissible to man, and therefore it would be prudent to keep such animals away from the dwelling place during the prevalence of any such sickness.

WHOOPING-COUGH prevailed quite extensively in Sacramento, San Francisco, Oakland, Salinas, Downieville, Etna Mills, Middletown, and Alameda.

ERYSIPELAS was reported in sporadic form in Sacramento, Anderson, Brownsville, Bakersfield, Benicia, Santa Cruz, Downey, Mariposa, Merced, Etna Mills, Pleasanton, Fresno, Eureka, Modesto, Anaheim, and San Francisco.

TYPHOID FEVER.—A very few cases of this disease were reported as observed in Bakersfield, Merced, Etna Mills, Newcastle, San José, Sacramento, Los Angeles, and San Francisco.

TYPHO-MALARIAL FEVER was reported in Redding, Igo, Cottonwood, Merced, and Mariposa.

REMITTENT FEVER was observed in Redding, Needles, Lockeford, Knights Ferry, Fresno, and Visalia.

CEREBRAL FEVER.—Some isolated cases were reported in Sacramento, College City, Redding, Alameda, Gridley, Pomona, Watsonville, and San Diego.

PNEUMONIA was reported in every notice received, which exhibits its great prevalence. Following so large a proportion of cases of la grippe, it tends to show that there is some sort of connection between the two. Although the microphyte of pneumonia has apparently been identified, it is not yet placed beyond doubt, as if it were we must necessarily be obliged to place pneumonia among the communicable diseases. Several facts, however, contribute to this view, and even well-marked cases were noticed that seemed to be derived from others in close proximity.

BRONCHITIS prevailed extensively the past month throughout the State.

INFLUENZA, OR LA GRIPPE, continued in an epidemic form during the month. It is now on the wane, and probably by the next report issued it will have disappeared from the State. One of the most noticeable features of the epidemic was the predominance of the nervous symptoms. These were manifested by the violent headache, the pain down the spine, with oftentimes sensitiveness of the skin, making it painful to the touch, the mental depression, the tendency to faintness, which often preceded the attack, with the utter prostration following it, indicated the profound impression the poison exerted on the nerve centers.

THE STATE BOARD OF HEALTH.

The present Board having been superseded in office, with this issue of the "Monthly Circular" the connection of the present Secretary with it ceases. Hereafter his successor in office, when elected, will, it is to be hoped, improve and continue it for the information of the public and the instruction of those who are interested (as all should be) in the sanitary welfare of the State. Under the auspices of the deposed Board, sanitation in California was making a well-marked advance, and inducing a public interest in the matter which will yet bear fruit abundantly if it is sedulously cultivated. The Board has now had local Boards of Health organized and Health Officers appointed throughout the State; has enlisted a corps of sanitary correspondents who most diligently, and without monetary consideration, have kept the Secretary advised every month of the health of their different localities, and of the prevailing diseases existing, so that at any time the Secretary was in a position to take immediate action in the suppression of a threatened epidemic or the prevention of the advance of pestilential disease. The Board has also been successful in having Congress establish quarantine stations to protect our coast from imported disease. The one in San Francisco harbor, when completed, will be the most perfect in America, and will only be equaled by the one now in progress of erection in San Diego.

In taking leave of the public, the Board is desirous of acknowledging its obligation to the medical profession, the public press, and the railroads for the many favors extended to it, and would bespeak for its successors like courtesies from its many correspondents, upon whose kindness so much depends. Public health or sanitary efforts are not subjects to be controlled by or mixed with political prejudices or party strife. Sanitary science, being governed by natural law and not by politics, experience teaches us that neither disease nor death will be controlled by party dictation, or even arrested by party faith without sanitary works. Contagious diseases do not consult the political proclivities of their victims before invading the sanctity of their dwellings.

Abstract of the Reports of Deaths and their Causes in California during March, 1891.

LOCATIONS AND AUTHORITIES.	Estimated Population	Total Deaths																									
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Alturas, Dr. J. M. Forrest.	2,250																										
*Alameda, Dr. John T. McLean.	11,165																										
Anderson, Dr. O. P. Paulding.	1,000																										
Auburn, A. S. Waldo, H. O.	2,000																										
Azusa and vicinity, Dr. J. H. Miller	2,000																										
Bakersfield, Dr. C. A. Rogers	3,200																										
*Benicia, Dr. E. Gray	2,360																										
Berkeley, Dr. F. H. Payne	4,000																										
Brownsville, Dr. L. C. Crossman.	800																										
College City, Dr. H. Gibbons	700																										
Cloverdale, Dr. R. S. Markell.	1,500																										
*Chico, Dr. W. King	2,894																										
Dixon, Dr. A. Trafton	2,500																										
Downieville, Dr. A. Jump	1,000																										
Downey and vicinity, Dr. Q. J. Rowley	2,500																										
Etna Mills, Dr. E. W. Bathurst	500																										
*Eureka, Dr. S. B. Foster	4,858																										
Elmore, Dr. T. E. Ellis.	1,200																										
El Monte, Dr. F. P. Cave	800																										
Forest Hill and vicinity, Dr. Paul Reudy	5,000																										
Fresno City, Dr. T. M. Hayden	10,818																										
Folsom, Dr. B. F. Bates	1,500																										
Grass Valley, Dr. W. C. Jones	6,000																										
Gridley, Dr. J. T. Harris	2,500																										
Haywards, Dr. G. E. Alexander	1,200																										
Hopland, Dr. C. F. Grant	600																										
Hollister, Dr. J. H. Tebbetts	1,500																										
Igo, Dr. H. Schafer	600																										
Jackson, Dr. E. B. Robertson	2,600																										
Knights Ferry and vic., Dr. J. H. Lowe	1,250																										
*Lockeford, Dr. E. N. Foote	500																										
*Long Beach, Dr. J. W. Wood	2,000																										
Lodi, Dr. A. E. Burchard	2,000																										

REPORT OF THE STATE BOARD OF HEALTH.

[illegible]

NOTE.—Population of towns marked with an asterisk are from official census, 1890. †Including towns reporting no deaths, of an aggregate population of 9,100.

APRIL, 1891.

RECOMMENDATIONS OF THE STATE BOARD OF HEALTH.

The State Board of Health, on the 10th of April, instructed the Secretary to announce to local Boards and correspondents generally that vague terms, such as heart failure, dropsy, colds, and childbirth, given in some monthly reports as causes of death, will be regarded as neither sufficient nor satisfactory; and to recommend that specific terms, having the sanction of usage, and recognized in medical nomenclature, be invariably used to designate the cause of death. The wisdom of such recommendation is obvious to intelligent minds. The objects to be attained are precision and accuracy.

The Secretary was also instructed to obtain the census of 1890 for all the cities and towns of importance in California, and to compute percentages of deaths from such corrected estimates of population. This number shows this to have been only partially done, but the next will show a full compliance with these instructions.

To Correspondents.—It is hoped that correspondents who have hitherto furnished reports to the State Board of Health will continue to do so.

It is not desirable to make changes unless the cause is imperative. Should, however, some be unable to continue this work, which is essentially in the cause of humanity, it would be well to send a notification to that effect, so that others may be secured. Such notification will admit of no delay. If, therefore, localities that have heretofore sent regular reports, fail to send either a report for May, or a notification of inability to continue, it will be taken as an intimation that the Board will be at liberty to invite another correspondent.

It is extremely desirable that all reports should be forwarded at the earliest possible date after the end of each month. It is unnecessary to add that the members of the Board, and especially the Secretary, will appreciate fully the efforts of those who give their time and services to this cause. He desires their good will and support in the interest of sanitation in California.

REMARKS.

Mortality reports from 67 cities, towns, and localities, having a population of 674,830, show 1,064 deaths to have occurred from all causes. This is a percentage of 1.57 per 1,000 per month, or 18.84 per 1,000 per annum.

Consumption was the cause in 164 cases, pneumonia in 153, bronchitis in 40, and congestion of the lungs in 8. Diarrhoea and dysentery are assigned as the cause of 7 deaths, cholera infantum 3, and of other diseases of the stomach and bowels 51. Croup caused 21 deaths, scarlatina but 1, whooping-cough 3, typhoid fever 14, malarial fevers 3, cerebrospinal fevers 6, cancer 29, erysipelas 1, heart disease 63, alcoholism 13, and all other causes, not necessarily classified, 436. Of this last number la grippe is responsible for 13 deaths, and there is a reasonable presumption that many fatal cases of lung disease are traceable directly to an attack of that disease. Diphtheria caused death in 48 cases, San Francisco furnishing 27. This disease is undoubtedly communicated by germ contagion or infection, but the principal influences contributing to its virulence and fatality are those unsanitary conditions arising from soil pollution, bad drainage, with resulting vitiated air and impure water. It follows, then, that efforts to reduce the numerical quantity and lessen the fatality of this disease should consist in the construction of good sewers and good drains, the removal of all offensive matter, the obliteration of stagnant water, and the annihilation of filth. Diarrhoea is given as the cause of 9 deaths. Localities having a large number of cases of la grippe show also an increase in diarrhoea; the city of Fresno, for example, reporting 33 cases of la grippe and 18 of diarrhoea. The general catarrhal condition of all the mucous surfaces in the former diseases is a sufficient explanation of the accompanying diarrhoea.

PREVAILING DISEASES.

MEASLES was reported from Middletown, Anderson, Downieville, Dixon, Etna Mills, San Pedro, Santa Paula, Truckee, Anaheim, College City, Red Bluff, Fresno, and Sacramento.

WHOOPIING-COUGH has been in Sacramento, Fresno, Vacaville, Downieville, and Oakdale.

LA GRIPPE.—The only disease that may be said to prevail extensively is la grippe, 363 cases being reported from different parts of the State, with an accredited fatality of 13. Fresno reported 33 cases, with 31 of bronchitis and 5 of pneumonia. Red Bluff 50, with 5 of bronchitis and 10 of pneumonia. Lincoln 10, with 1 of bronchitis. College City, 16, with 7 of bronchitis and 4 of pneumonia. Pleasanton 20, with 20 of bronchitis and 2 of pneumonia. Elsinore reported 15 cases, Alturas 13, Vacaville 10, with 8 of bronchitis and one of pneumonia. Eureka 5, with 10 of bronchitis and 2 of pneumonia. Anderson had 40 cases, Middletown 11, Oakdale 4, Calico 10, Knights Ferry 8, Gridley, 10, Needles 20, National City 6, Etna Mills 15, Santa Paula 3, Benicia 6, and Truckee 60 cases. San Francisco, Los Angeles, San Diego, and other southern points of importance report none at all. Oakland, Alameda, and San José are almost, if not altogether, exempt. The progress of this remarkable malady has been somewhat erratic, following no well-defined course, and requiring no unusual local conditions for its development. It is unnecessary to predict its future in California. If the prevalence of moisture in some portions of the State during April is responsible for the extension of its visit, it would seem to follow that San Francisco, which had heavier rainfalls than for years before in April, should have had la grippe. Such, however, was not the case, none being

reported. The southern portion of the State has not been entirely exempt. Needles and Calico are in a region rated by the Signal Office as below normal in rainfall for April, but yet they have suffered severely from la grippe. In these instances moisture cannot have been the cause.

An abstract from the Signal Service report by Lieut. John P. Finley, U. S. A., for April, is appended, to give those who may be interested in following this subject an opportunity to estimate the value of rainfall and temperature in favoring or limiting the prevalence of this unique visitation:

The rainfall has been in excess of the normal in Northern California, western Oregon, and western Washington. Elsewhere there has been a deficiency. The excess varies from .05 of an inch at Sacramento to 3.31 inches at Eureka. The deficiency ranges from .04 of an inch at Los Angeles to 1.14 inches at Fresno. The heaviest monthly rainfall was 7.80 inches at Fort Canby, and the smallest .10 of an inch at Keeler. No rain fell at Yuma and Fort Grant, which fact marks an unusual deficiency for Arizona. The rainfall at San Francisco was 2.44 inches, or .40 of an inch above the normal. This is one of the heaviest rainfalls at San Francisco for a number of years during April. The other dates of heavy rainfall are as follows: 1853, 5.37; 1855, 5.00; 1860, 3.14; 1880, 10.06; 1884, 6.33; 1886, 5.28.

TEMPERATURE.—The temperature has been in excess of the normal in all districts, except the central portion of California, where the deficiency ranges from 3° at Keeler to 4° at Sacramento. It remained normal at San Francisco and Eureka. The excess ranges from 8° at Roseburg, and 6° at Yuma, to 1° at San Diego, Fort Canby, and Olympia. The highest temperature, 102°, occurred at Yuma on the 28th, and 100° on the 27th. The lowest temperature, 20°, occurred at Baker City, Oregon, on the 2d. Light frosts occurred in Northern California on the 8th, 11th, and 26th; in Oregon on the 2d, 3d, and 8th; in Nevada on the 11th, 19th, and 26th.

STATIONS.	RAINFALL.			TEMPERATURE.	
	April Rainfall.	Total Seasonal.	Normal April.	Average Monthly.	Normal April.
Red Bluff.....	2.30	20.51	2.18	58	56
Sacramento.....	2.00	15.00	1.95	52	56
San Francisco.....	2.44	16.22	2.04	53	53
Fresno.....	0.50	8.22	1.64	59	62
Keeler.....	0.10	4.36	0.64	57	60
Los Angeles.....	1.30	13.08	1.34	59	54
San Diego.....	0.80	10.02	0.90	58	57
Yuma.....	0.00	6.22	0.11	70	64
Fort Grant.....	0.00	17.86	0.60	59	-----

Abstract of the Reports of Deaths and their Causes in California during April, 1891.

LOCATIONS AND AUTHORITIES.	Estimated Population	Total Deaths																									
		Consumption	Acute Pneumonia	Acute Bronchitis	Congestion of the Lungs	Diarrhoea and Dysentery	Cholera Infantum	Other Diseases of Stomach & Bowels	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping-Cough	Typho-Malarial Fever	Typhoid Fever	Remittent and Intermittent Fevers	Cerebro-Spinal Fevers	Cancer	Erysipelas	Heart Diseases	Alcoholism	Other Causes				
Altura, Dr. J. M. Forrest	2,250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda, Dr. John T. McLean	11,250	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anaheim, Dr. J. H. Bullard	2,000	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anderson, Dr. O. P. Paulding	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benicia, Dr. E. Gray	2,800	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berkeley, Dr. F. H. Payne	5,500	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calico, Dr. A. R. Rhea	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colton, Dr. M. F. Price	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
College City, Dr. C. H. Gibbons	700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colusa, Dr. W. Thurston	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood, Dr. J. O. Smith	1,250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chico and vicinity, Dr. William King	10,000	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dixon, Dr. A. Traiton	2,000	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Downey and vicinity, Dr. Q. J. Rowley	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etna Mills, Dr. E. W. Bathurst	1,000	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
El Monte, Dr. T. P. Cave	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eureka and vicinity, Dr. S. B. Foster	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elsinore, Dr. T. E. Ellis	1,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Hill and vicinity, Dr. Paul Reudy	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fresno, Dr. T. M. Hayden	10,000	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Folsom, Dr. B. F. Bates	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grass Valley, Dr. W. C. Jones	6,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gridley, Dr. J. T. Harris	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haywards, Dr. G. E. Alexander	1,200	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Healdsburg and vic., Dr. N. B. Coffman	4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hollister, Dr. J. H. Tebbetts	1,200	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackson and vic., Dr. E. B. Robertson	2,600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Knights Ferry and vic., Dr. J. H. Lowe	1,250	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln, Dr. Joseph Flint	500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long Beach and vic., Dr. J. W. Wood	2,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Los Angeles, Dr. G. MacGowan	55,000	62	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marysville, Dr. D. Powell	4,000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mendocino and vic., Dr. J. W. Milliken	1,500	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REPORT OF THE STATE BOARD OF HEALTH.

Modesto, Dr. W. J. Wilhite	2,000	11	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0</
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MAY, 1891.

Reports from 66 cities, towns, and villages, having an aggregate population of 608,945, show a mortality of 945 from all causes. This is a percentage of 1.55 per 1,000 for May, or 18.60 per 1,000 per annum.

Consumption was fatal in 140 cases, being a reduction of 24 since April. Pneumonia was the cause of death in 91, bronchitis in 21, and congestion of the lungs in 11. There were 15 deaths from diarrhoea and dysentery, 8 from cholera infantum, and 34 from other diseases of the stomach and bowels. Diphtheria caused 33 deaths, croup 13, scarlatina 2, measles 3, and whooping-cough 8. Typho-malarial fever is credited with 3 deaths, typhoid fever with 20, remittent and intermittent fevers 7, and cerebro-spinal fever 3. Cancer caused 24, erysipelas 3, heart diseases 58, alcoholism 8, and all other causes 420.

PREVAILING DISEASES.

CHOLERA INFANTUM was reported at Fresno, San Pedro, Ione, Santa Paula, and Cottonwood.

DIARRHOEA has been quite prevalent, Willows reporting 12 cases, Modesto 111. It prevailed also at Ione, Etna Mills, Oakdale, Eureka, Lincoln, Bakersfield, Pleasanton, Santa Paula with 11, Vacaville, Middletown, San Pedro, Mariposa, College City, Red Bluff, and Fresno with 75 cases.

CHOLERA MORBUS was reported from Fresno, Modesto, Red Bluff, College City, Benicia, San Pedro, Pleasanton, Galt, Wheatland, and Williams.

DYSENTERY was reported from Williams, Ione, Downey, Gridley, Vacaville, San Pedro, Red Bluff, Modesto, and Fresno with 42 cases.

SMALLPOX has not been reported, but there is one case in the Sacramento City and County Pesthouse. It is believed to have been contracted at El Paso, Texas. Sufficient time has not elapsed to determine if the contagion is to spread. There are also cases of this disease at the United States Quarantine Station, near San Francisco, all of which are recovering.

MEASLES appears to be epidemic in Ione, 100 cases being reported. There were 10 at Red Bluff, 42 at Fresno, 11 at Wheatland, 20 at Oakdale, 18 at Bakersfield. It was also reported from Santa Paula, Truckee, Dixon, Vacaville, Mariposa, Lincoln, Etna Mills, Galt, and Sacramento.

SCARLATINA was reported from Ventura, Vacaville, Napa, Bakersfield, Oakdale, Ione, Modesto, and Sacramento.

DIPHTHERIA was reported from Modesto, St. Helena, Dixon, Truckee, College City, Eureka, and Napa.

FEVERS OF A MALARIAL TYPE have prevailed in Mariposa, Lincoln, Vacaville, Cottonwood, Sausalito, Pleasanton, Truckee, Gridley, San Pedro, Bakersfield, Ione, Red Bluff, Fresno, Wheatland, Oakdale, Etna Mills, Galt, and Williams.

TYPHOID FEVER has not prevailed to any great degree throughout the State. It is confined principally to the larger towns and cities.

DISEASES OF THE RESPIRATORY ORGANS coming under the head of pneumonia, bronchitis, and congestion of the lungs, have abated somewhat; but 133 deaths from these causes, exclusive of consumption, show that they prevail.

Three hundred and five cases of la grippe have been reported from 27 localities quite widely distributed.

San Francisco, Oakland, Los Angeles, San José, San Diego, Alameda, and Sacramento do not report prevailing diseases, the above reports being furnished from other sources.

The population is given according to the latest Census Report as published by Bancroft & Co., of San Francisco. It makes, in many instances, a material difference from former figures, but the discrepancy is explained when it is understood that many reports are taken from a wide area of territory covering many miles and attributed to one small town and vicinity. If, however, it is shown that any injustice is being done, a correction will at once be made.

Abstract of the Reports of Deaths and their Causes in California during May, 1931.

LOCATIONS AND AUTHORITIES.	Estimated Popula- tion	Other Causes																																
		1	4	4	0	5	3	1	0	7	1	1	0	2	1	7	0	2	0	1	0	3	7	1	3	22	1	0	1	1	0	2	32	9
Alturas, Dr. J. M. Forrest.	512																																	
Alameda, Dr. John T. McLean	11,800																																	
Anaheim, Dr. J. H. Bullard	1,200																																	
Antioch and vicinity, Dr. W. S. George	3,000																																	
Auburn, Dr. A. S. Waldo	1,601																																	
Bakersfield, Dr. C. A. Rogers	2,000																																	
Benicia, Dr. E. Gray	2,591																																	
Colton, Dr. M. F. Price	2,040																																	
Chico and vicinity, Dr. William King	10,000																																	
Dixon, Dr. A. Trafton	1,567																																	
Downey and vicinity, Dr. Q. J. Rowley	2,500																																	
Etna Mills, Dr. E. W. Bathurst	400																																	
Eureka and vicinity, Dr. S. B. Foster	10,000																																	
Forest Hill and vic., Dr. Paul Reudy	3,000																																	
Fresno, Dr. W. T. Maupin	10,796																																	
Folsom, Dr. B. F. Bates	1,960																																	
Galt, Dr. Alex. Montague	700																																	
Grass Valley, Dr. W. C. Jones	4,032																																	
Gonzales, Dr. C. A. E. Hertel	350																																	
Gridley, Dr. J. T. Harris	700																																	
Haywards, Dr. G. E. Alexander	1,625																																	
Healdsburg and vic., Dr. W. B. Coffman	4,000																																	
Ione and vicinity, Dr. A. L. Adams	2,800																																	
Lockeford, Dr. E. N. Foote	400																																	
Los Angeles, Dr. G. MacGowan	53,394																																	
Merced, Dr. E. S. O'Brien	2,009																																	
Modesto, Dr. W. J. Willhite	2,397																																	
Mariposa, Dr. J. W. Kearney	425																																	
Middletown, Dr. R. E. Hartley	350																																	
Monterey, Dr. Sidney H. Smith	1,200																																	
Napa, Dr. M. B. Pond	4,387																																	
Oakland, Dr. Paul J. Shafer	50,000																																	
Oroville, Dr. J. H. M. Karsner	2,000																																	

REPORT OF THE STATE BOARD OF HEALTH.

ABSTRACT FOR MAY, 1891—Continued.

LOCATIONS AND AUTHORITIES.																									
	Other Causes	Alcoholism.....	Heart Diseases	Erysipelas.....	Cancer	Cerebro - Spinal Fevers.....	Remittent and Intermittent Fevers.....	Typhoid Fever	Typho - Malarial Fever.....	Whooping-Cough..	Smallpox	Measles.....	Scarlet Fever	Croup.....	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum.	Diarrhoea and Dysentery.....	Congestion of the Lungs.....	Acute Bronchitis..	Acute Pneumonia.	Consumption.....	Total Deaths	Estimated Population	
Pasadena and vic., Dr. Henry H. Sherk.....	1	2	3	6	1	2	0	1	2	0	10	3	1	2	0	1	3	1	2	0	1	3	1	7,000	
Petaluma and vicinity, Dr. L. H. Patty.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000	
Pleasanton, Dr. W. H. Cope.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	842	
Red Bluff and vicinity, Dr. J. M. West.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,000	
Redding, Dr. F. P. Mitchell.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,861	
Rio Vista, Dr. S. C. Brown.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,900	
Selma and vicinity, Dr. E. E. Brown.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	
San Diego, Dr. Thos. L. Magee.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,150	
San Francisco, Dr. J. W. Keeney.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	297,990	
San José, Dr. J. R. Curriow.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,027	
San Luis Obispo, County Recorder.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,004	
Santa Paula and vic., Dr. D. W. Mott.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,000	
San Pedro, Dr. R. W. Hill.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	
Santa Monica, Dr. E. E. Folsom.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,700	
Santa Barbara, Dr. R. F. Winchester.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,864	
Santa Cruz, Dr. C. L. Anderson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,594	
Santa Rosa, Dr. J. S. Sargent.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,216	
Suisun and vic., Dr. J. W. B. Reynolds.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	
St. Helena and vic., Dr. W. J. G. Dawson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,800	
Truckee and vicinity, Dr. W. Curless.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,300	
Upper Lake, Dr. R. G. Reynolds.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300	
Vallejo, Dr. W. D. Anderson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,904	
Ventura and vic., Dr. N. J. Comstock.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
Watsonville, Dr. W. D. Rodgers.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,000	
Wheatland and vicinity, Dr. S. Melton.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,153	
Williams, Dr. A. W. Kimball.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600	
Totals.....	945	140	91	21	11	15	8	54	33	13	2	3	0	8	3	20	7	3	24	58	8	420	608,945*		

* Including the following towns reporting no deaths: Cottonwood, Cloverdale, Downieville, Elsinore, Long Beach, Santa Maria, Vacaville, and Elmira.

JUNE, 1891.

Mortality reports from 75 cities, towns, and localities, aggregating a population of 675,954, show a total of 995 deaths from all causes. This is a percentage of 1.47 per 1,000 for June, or 17.64 per 1,000 per annum.

There were 140 deaths from consumption, 59 from pneumonia, 29 from bronchitis, 13 from congestion of the lungs, 18 from diarrhoea and dysentery, 24 from cholera infantum, 54 from other diseases of the stomach and bowels, 47 from diphtheria, 7 from croup, 7 from scarlatina, 2 from measles, 11 from whooping-cough, 1 from malarial fever, 23 from typhoid fever, 6 from cerebro-spinal fever, 32 from cancer, 1 from erysipelas, 78 from heart disease, 15 from alcoholism, and 428 from all other causes.

But few deaths have been reported as due to excessive heat, yet a sufficient number of cases of sunstroke have been noted during the few days of the heated term to dispel forever, it is hoped, the traditional fiction that insolation never occurs in California.

A reference to the mortality table will demonstrate an increase of deaths at San Francisco from diphtheria, there being 25 reported, as against 18 in May. It is remarkable that so much indifference should be shown to the ravages of a disease that is as surely preventable as smallpox. Every one will concede that 25 deaths from either cholera or smallpox would produce the utmost consternation in San Francisco. Nevertheless, 25 deaths from diphtheria, confined to those of tender years, seems to produce but little effect on those who have the control of ways and means with which to construct drains and sewers suitable to the urgent needs of a rich and populous city. Perhaps if these fatalities were confined to the voting class, a political thrill might find its tortuous way up the metropolitan spinal marrow, and for a time lead to the consideration of public morals in the way of municipal cleanliness. The same will apply to any other town or city.

PREVAILING DISEASES.

Reports of prevailing diseases from 47 localities show diseases of the stomach and bowels of a diarrhoeal character to have been quite common. There were 218 of simple diarrhoea, 27 of cholera infantum, 90 of cholera morbus, and 40 of dysentery. The fatalities have been light, considering the high temperature of the month. Thirty-three cases of measles, 33 of diphtheria, 3 of croup, 20 of erysipelas, 26 of typhoid fever, 275 of malarial fevers, 20 of pneumonia, 103 of bronchitis, 109 of la grippe, and 109 of whooping-cough, comprise the remainder. This would indicate that fevers of a malarial type were more prevalent than any other class of disease. This is easily explained by the late rains, creating surface water, followed by great heat. La grippe is diminishing, yet a considerable number of cases of bronchitis are attributable to this cause. The State, sanitarily considered, is in a healthy condition, and due vigilance should be observed in order to keep it so during the two months of warm weather before us.

Abstract of the Reports of Deaths and their Causes in California during June, 1891.

LOCATIONS AND AUTHORITIES.	Estimated Popu- lation	Total Deaths																										
Alturas, Dr. John M. Forrest.....	512	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Alameda, Dr. John T. McLean.....	11,900	18	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Anaheim, Dr. J. H. Bullard.....	1,200	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Auburn, Dr. A. S. Waldo.....	1,601	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Azusa and vicinity, Dr. J. H. Miller.....	1,500	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bakersfield, Dr. C. A. Rogers.....	2,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Benicia, Dr. Edward Gray.....	2,591	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
College City, Dr. C. H. Gibbons.....	500	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Colton, Dr. M. F. Price.....	2,040	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cottonwood and vic., Dr. J. O. Smith.....	1,250	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cloverdale and vic., Dr. R. S. Markell.....	1,554	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Chico and vicinity, Dr. William King.....	8,388	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Davisville, Dr. W. E. Bates.....	500	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dixon, Dr. A. Trafton.....	1,567	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Downeyville, Dr. Alembly Jump.....	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Downey and vicinity, Dr. Q. J. Rowley.....	2,500	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Elma Mills, Dr. E. W. Bathurst.....	400	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
El Monte, Dr. T. P. Cave.....	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Eureka and vicinity, Dr. S. B. Foster.....	10,000	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Elsinore, Dr. T. E. Ellis.....	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fresno, Dr. W. T. Maupin.....	10,796	11	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Folsom, Dr. B. F. Bates.....	1,960	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Galt, Dr. Alex. Montague.....	700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grass Valley and vic., Dr. W. C. Jones.....	7,000	6	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gonzales, Dr. C. A. E. Hertel.....	350	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Haywards, Dr. G. E. Alexander.....	1,625	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hollister and vic., Dr. J. H. Tebbetts.....	9,000	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Knights Ferry, Dr. James H. Lowe.....	250	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lockeford, Dr. E. N. Foote.....	400	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lincnoln, Dr. Jos. Flint.....	500	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Long Beach and vic., Dr. J. W. Wood.....	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Loft and vicinity, Dr. A. Burchard.....	1,200	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Los Angeles, Dr. G. Mactrowan.....	53,364	68	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

JULY, 1891.

Mortality reports from 66 cities, towns, and villages, aggregating a population of 695,866, show 1,066 deaths from all causes. This is a percentage of 1.57 per 1,000 for July, or 18.84 per annum.

There were 141 due to consumption, 45 to pneumonia, 12 to bronchitis, 5 to congestion of the lungs, 16 to diarrhoea and dysentery, 62 to cholera infantum, 89 to other diseases of the stomach and bowels, 34 to diphtheria, 10 to croup, 5 to scarlatina, 7 to measles, 5 to whooping-cough, 5 to typho-malarial fevers, 38 to typhoid fever, 2 to remittent and intermittent fevers, 10 to cerebro-spinal fever, 45 to cancer, 80 to heart disease, 12 to alcoholism, and 473 to other causes.

There were 45 deaths from pneumonia as against 59 in June; 12 from bronchitis as against 29 in June; and 5 from congestion of the lungs as against 13 in June. This shows a marked decrease in acute diseases of the respiratory organs.

There were 38 deaths from typhoid fever, and 5 from typho-malarial fevers, as against 23 in June.

There were reported only 34 deaths from diphtheria as against 47 in June.

PREVAILING DISEASES.

Reports of diseases prevailing in 45 localities outside of cities and large towns show 39 cases of cholera infantum, 148 of diarrhoea, 42 of cholera morbus, 43 of dysentery, 43 of measles, 16 of scarlatina, 19 of diphtheria, 80 of whooping-cough, 25 of erysipelas, 26 of typhoid fever, 321 of malarial fevers, 5 of cerebral fevers, 3 of pneumonia, 45 of bronchitis, 7 of congestion of the lungs, 25 of influenza, and 7 of acute rheumatism.

Measles prevailed extensively at Middletown, Bakersfield, and Mariposa.

Red Bluff reported 25 cases of whooping-cough, and College City 18 cases.

Chico reported 14 cases of diphtheria.

Scarlatina has been reported from a number of places, always as in a mild form.

YELLOW FEVER.

The San Francisco "Chronicle" a few days ago published the following:

"*Yellow Fever at Guaymas.*—A letter received in this city by a business house, dated at Nogales, July 30th, states that the yellow fever prevails at Guaymas. There were 7 or 8 deaths a day during the week which preceded the writing of the letter. The informant adds that great efforts are being made to conceal the presence of the disease from the outside world, and that fines are threatened against any one in Guaymas who shall give information regarding the state of affairs."

A reply to a telegram to the "Chronicle" said: "Information authentic; it came in a letter to a merchant here, but we are not at liberty to give his name."

A telegram wired to Guaymas brought the following reply, dated August 7th: "No yellow fever at Guaymas or on the west coast of Mexico. A. Willard, U. S. Consul at Guaymas."

It is not improbable that the "Chronicle's" informant mistook dengue or some low form of malarial fever for yellow fever. It is scarcely probable that Consul Willard is mistaken; neither is it likely that the authorities influenced the telegraph companies to distort his message. Until further report is had to the contrary, it must be held that yellow fever does not prevail in Guaymas, and that we are not at this time in danger of invasion from that direction.

I believe it is generally admitted that a mean temperature above 70° F., with an abundance of moisture in the atmosphere, is necessary for the propagation of yellow fever.

There is some doubt about the hot valleys of the State possessing these conditions. It would not be wise, however, to permit the experiment, and the utmost vigilance will be observed during the remainder of the summer.

The health of the State is, generally speaking, very good; no epidemic prevails.

A preventive disease circular, entitled "Diphtheria; Its Restriction and Prevention," has been published by authority of the State Board of Health, and is intended for general distribution among the people. It will be sent, in numbers required, upon application to the Secretary of the Board at Sacramento.

Abstract of the Reports of Deaths and their Causes in California during July, 1901.

LOCATIONS AND AUTHORITIES.	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhoea and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population										
Alameda, Dr. John T. McLean	7	5	1	3	2	2	4	0	0	0	2	3	1	0	2	2	9	1	0	9	0	2	1	0	1	2	27	0	1	3	3	0	22	1
Anaheim and vicinity, Dr. J. H. Bullard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
Antioch and vicinity, D. W. S. George	1	0	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auburn, Dr. A. S. Waldo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azusa and vicinity, Dr. J. H. Miller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bakersfield, Dr. C. A. Rogers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berkeley, Dr. F. H. Payne	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
College City, Dr. C. H. Gibbons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colton, Dr. M. F. Price	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloverdale and vic, Dr. R. S. Markell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chico and vicinity, Dr. William King	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dixon, Dr. A. Trafton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etna Mills, Dr. E. W. Bathurst	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eureka and vicinity, Dr. S. B. Foster	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest Hill and vicinity, Dr. Paul Reudy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fresno, Dr. W. S. Maupin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Folsom, Dr. B. F. Bates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Galt, Dr. Alex. Montague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grass Valley and vic, Dr. W. C. Jones	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gridley, Dr. J. F. Harris	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haywards, Dr. G. E. Alexander	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Knights Ferry, Dr. James H. Lowe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lockeford, Dr. E. N. Foote	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long Beach and vic, Dr. J. W. Wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln, Dr. Joseph Flint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Los Angeles, Dr. G. MacGowan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Middletown, Dr. R. E. Hartley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mariposa, Dr. W. J. Kearney	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mariposa, Dr. W. J. Kearney	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monterey, Dr. Sidney H. Smith	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Martinez and vicinity, Dr. J. B. Tennant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Needles, Dr. James P. Booth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oakland, Dr. J. P. H. Dunn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oakdale, Dr. R. H. Endicott	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ABSTRACT FOR JULY, 1891—Continued.

LOCATIONS AND AUTHORITIES.	Deaths																							Estimated Population
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhœa and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	
Oroville, Dr. J. H. M. Karsner.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,000
Pasadena and vic., Dr. Henry Sherk.....	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	7,000
Petaluma and vicinity, Dr. L. H. Patty.....	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8,000
Pomona and vicinity, Dr. R. F. Rose.....	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	5,000
Red Bluff and vicinity, Dr. J. M. West.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5,000
Redding and vicinity, Dr. F. P. Mitchell.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3,000
Rio Vista and vicinity, Dr. S. C. Brown.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,900
Rocklin, Dr. A. M. Stafford.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	800
Sacramento, Dr. C. B. Nichols.....	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	26,272	26,272
San Diego, Dr. Thomas L. Magee.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	16,150
San Francisco, Dr. J. W. Keeney.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	590	330,000	330,000
San José, Dr. J. R. Curnow.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	52	7	18,027
San Luis Obispo, County Recorder.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12	3,004
San Pedro, Dr. R. W. Hill.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7,000
Santa Monica, Dr. M. Thornburg.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,700
Santa Ana and vicinity, Dr. J. G. Bailey.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	10,900
Santa Barbara, Dr. R. F. Winchester.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	6	5,864
Santa Paula and vicinity, Dr. D. W. Mott.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	2,000
Santa Cruz, Dr. C. L. Anderson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5,584
Santa Rosa, Dr. R. P. Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	5,216
Stockton, Dr. C. A. Ruggles.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	14,376
Suisun, Dr. J. W. B. Reynolds.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1,000
Truckee and vicinity, Dr. W. Curless.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1,300
Upper Lake, Dr. R. G. Reynolds.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	300
Valejo, Dr. W. D. Anderson.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	5,804
Ventura and vic., Dr. A. J. Comstock.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	7,000
Vacaville and Elmira, Dr. J. W. Stitt.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4,500
Watsonville, Dr. W. D. Rodgers.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2,500
Williams, Dr. A. W. Kimball.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	800
Totals	1,096	12	80	0	45	10	2	38	5	5	0	7	5	10	34	89	62	16	5	12	45	141	1,096	685,866

AUGUST, 1891.

Mortality reports from 66 cities, towns, and localities, aggregating a population of 706,064, show the total number of deaths in August, from all causes, to have been 975. That is 1.38 per cent per 1,000 for the month, and 16.56 per cent for the year.

There were 122 due to consumption, 52 to pneumonia, 19 to bronchitis, 15 to congestion of the lungs, 19 to diarrhoea and dysentery, 48 to cholera infantum, 59 to other diseases of the stomach and bowels, 25 to diphtheria, 6 to croup, 2 to scarlatina, 3 to measles, 7 to whooping-cough, 37 to typhoid fever, 3 to malarial fevers, 5 to cerebro-spinal fever, 30 to cancer, 3 to erysipelas, 85 to heart disease, 8 to alcoholism, and 430 to all other causes.

PREVAILING DISEASES.

Reports from 53 localities show 49 cases of cholera infantum, 155 of diarrhoea, 65 of cholera morbus, and 37 of dysentery.

Measles was reported from Middletown, Santa Cruz, Dixon, Fresno, and Mariposa.

Scarlatina was reported from 2 places only, St. Helena and Rio Vista. It has prevailed also in Sacramento during August.

Diphtheria has been reported from Alvarado as epidemic. Truckee reported 15 cases, Pomona 6. Willows has had 43 cases, but none have been reported, owing to the absence of the Health Officer.

Whooping-cough is scattered quite generally over the State. There were 25 cases in Pomona, 10 in Downey, 4 in Fresno, 20 in Lockeford, 8 in Red Bluff, 12 in Galt, and was heard from at Santa Rosa and San Diego. Ninety-four cases were reported in all. It was reported as epidemic at Elk Grove.

Seventeen cases of erysipelas were reported, 52 of typhoid fever, 368 of malarial fevers, 3 of cerebro-spinal fever, 5 of pneumonia, 7 of congestion of the lungs, 63 of bronchitis, 24 of influenza, and 6 of rheumatism.

SEPTEMBER, 1891.

Mortality reports from 63 cities, towns, villages, and localities, having an aggregate population of 675,551, show the total number of deaths from all causes in September to have been 929, making a death rate per 1,000 of 16.44 per annum.

Consumption was the cause of death in 129 cases, pneumonia in 38, bronchitis 13, congestion of the lungs 3, diarrhoea and dysentery in 30, cholera infantum in 30, other diseases of the stomach and bowels 63, diphtheria 33, membranous croup 10, whooping-cough 6, typhoid fever 28, malarial fevers 7, cerebro-spinal fever 3, cancer 20, erysipelas 3, heart disease 73, alcoholism 8, and from all other causes 444.

PREVAILING DISEASES.

Reports from 55 localities give 30 cases of cholera infantum, 168 of diarrhoea, 47 of cholera morbus, 41 of dysentery, 29 of measles, 10 of scarlatina, 26 of diphtheria, 18 of membranous croup, 31 of whooping-cough, 12 of erysipelas, 39 of typhoid fever, 379 of malarial fevers, 2 of cerebral fever, 11 of pneumonia, 62 of bronchitis, 9 of congestion of the lungs, 42 of influenza, and 5 of rheumatism.

In the foregoing typho-malarial fever is classed as typhoid fever, and intermittent and remittent fevers as malarial fevers.

Abstract of the Reports of Deaths and their Causes in California during September, 1891.

Other Causes	0	6	2	2	2	1	2	0	0	1	1	1	2	2	1	4	2	1	6	0	0	2	0	2	0	3	1	2	0	2	5	1	
Alcoholism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heart Diseases	0	0	0	0	0	2	0	1	0	2	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	9	0	0	3	0	3	0
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cancer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Remittent and Intermittent Fevers	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	5	1	0	0	
Typho - Malarial Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	
Whooping-Cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Croup	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Diphtheria	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Other Diseases of St'mach & Bow'ls	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	3	0	0	
Cholera Infantum	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	
Diarrhoea and Dysentery	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	1	0	0	0	
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Bronchitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	
Acute Pneumonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
Consumption	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	7	1	3	0	
Total Deaths	0	7	3	2	3	12	2	3	1	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	14	3	0	63	12	1	1
Estimated Population	512	11,900	5,000	1,601	2,000	3,300	2,800	2,000	1,200	8,880	1,567	1,000	2,500	400	1,000	800	3,000	10,798	1,860	700	7,000	350	1,625	2,000	1,200	53,394	1,200	750	50,000	2,000	13,000	8,000	
LOCATIONS AND AUTHORITIES.	Alturas, Dr. John M. Forrest	Alameda, Dr. John T. McLean	Anaheim and vicinity, Dr. J. H. Bullard	Auburn, Dr. A. S. Waldo	Azus and vicinity, Dr. J. H. Miller	Bakersfield and vic., Dr. C. A. Rogers	Benicia and vicinity, Dr. Edward Gray	Colton and vicinity, Dr. M. F. Price	Cottonwood and vic., Dr. J. O. Smith	Chico and vicinity, Dr. William King	Dixon, Dr. A. Traiton	Downieville, Dr. Alembly Jump	Downey and vicinity, Dr. Q. J. Rowley	Etna Mills, Dr. E. W. Bathurst	El Monte and vicinity, Dr. R. D. Adams	Eureka and vicinity, Dr. S. B. Foster	Elinsore and vicinity, Dr. T. E. Ellis	Forest Hill and vic., Dr. Paul Reudy	Fresno, Dr. W. S. Maupin	Folsom, Dr. B. F. Bates	Galt, Dr. Alex. Montague	Grass Valley and vic., Dr. W. C. Jones	Gonzales, Dr. C. A. E. Hertel	Haywards, Dr. G. E. Alexander	Long Beach and vic., Dr. J. W. Wood	Lodi and vicinity, Dr. E. A. Burchard	Los Angeles, Dr. G. MacGowan	Monterey, Dr. Sidney H. Smith	Needles and vic., Dr. James P. Booth	Oakland, Dr. J. P. H. Dunn	Oakland and vicinity, Dr. C. D. Watson	Pasadena and vic., Dr. Henry H. Sherk	Petaluma and vicinity, Dr. L. H. Patty

ABSTRACT FOR SEPTEMBER, 1891—Continued.

LOCATIONS AND AUTHORITIES.	Deaths																							Totals	
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhoea and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths		Estimated Population
Pleasanton, Dr. W. H. Cope	0	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	800	
Pomona and vicinity, Dr. R. F. Rose	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	5,000	
Red Bluff and vicinity, Dr. J. M. West	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5,000	
Redding and vicinity, Dr. F. P. Mitchell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5,000	
Rio Vista and vicinity, Dr. S. C. Brown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,900	
Sacramento, Dr. C. B. Nichols	26	272	33	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33	26,272	
San Bernardino, Dr. C. C. Wainwright	3	000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	3,000	
San Diego, Dr. Thos. L. Magee	16	153	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	16,153	
San Francisco, Dr. J. W. Keeney	300	000	465	37	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	300,000	
San José, Dr. J. R. Curnow	18	027	37	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	18,027	
San Luis Obispo, County Recorder	3	004	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	27	3,004	
Santa Paula and vic, Dr. D. W. Mott	1	500	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2,000	
San Pedro and vicinity, Dr. R. W. Hill	1	500	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1,500	
Santa Ana and vicinity, Dr. J. G. Bailey	15	000	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	15,000	
Santa Barbara, Dr. R. F. Winchester	5	684	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5,684	
Santa Clara, Dr. C. L. Anderson	5	684	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	5,684	
Santa Maria, Dr. M. Thornburg	1	000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	1,000	
Santa Rosa, Dr. E. P. Smith	5	216	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	5,216	
Sausalito and vic, Dr. H. J. Crumpton	2	000	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	2,000	
Selma and vicinity, Dr. E. E. Brown	3	000	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	3,000	
Stockton, Dr. C. A. Ruggles	14	376	22	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22	14,376	
St. Helena and vic, Dr. J. G. Dawson	2	800	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	2,800	
Suisun and vic, Dr. J. W. B. Reynolds	2	000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	2,000	
Truckee and vicinity, Dr. W. Curless	1	300	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	1,300	
Tulare City, Dr. C. F. Taggart	3	000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3,000	
Upper Lake, Dr. R. G. Reynolds	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300	
Vallejo, Dr. W. D. Anderson	5	500	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	5,500	
Vacaville and Elmira, Dr. J. W. Stitt	4	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,500	
Watsonville, Dr. W. D. Rodgers	2	000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2,000	
Wheatland and vicinity, Dr. L. Melton	1	000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1,000	
Totals	929	675,551	129	38	13	3	18	30	63	33	10	0	0	6	5	23	7	3	20	8	444	8	444	8	444

OCTOBER, 1891.

Mortality reports from 71 cities, towns, villages, and localities, having an aggregate population of 700,563, show the total number of deaths from all causes in October to have been 1,077, making a death rate of 1.53 per 1,000 for the month, or 18.36 per 1,000 per annum.

Consumption was the cause in 158 cases, acute pneumonia in 67, acute bronchitis in 20, congestion of the lungs in 4, diarrhœa and dysentery in 22, cholera infantum in 36, other diseases of the stomach and bowels in 73, diphtheria in 46, croup in 15, scarlatina in 1, measles in 6, whooping-cough in 1, typhoid fever in 29, remittent and intermittent fevers in 4, cerebro-spinal fever in 7, cancer in 40, heart disease in 67, alcoholism in 10, and all other causes 471.

PREVAILING DISEASES.

Reports from 63 localities give 7 cases of cholera infantum, 139 of diarrhœa, 45 of dysentery, 31 of measles, 20 of scarlatina, 48 of diphtheria, 3 of croup, 33 of whooping-cough, 24 of erysipelas, 46 of typhoid fever, 272 of malarial fevers, 7 of cerebro-spinal fever, 30 of pneumonia, 83 of bronchitis, 4 of congestion of the lungs, and 66 of influenza.

REPORT OF THE STATE BOARD OF HEALTH.

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[illegible]

Abstract of the Reports of Deaths and their Causes in Calif.

LOCATIONS AND AUTHORITIES.	Cases																										
	1	4	0	0	1	5	0	1	0	2	0	2	0	0	4	0	0	1	2	1	0	0	6	0	0	0	3
Aditas, Dr. John M. Forrest	550																										
Alameda, Dr. John T. McLean	11,900																										
Anaheim and vic., Dr. J. H. Bullard	5,000																										
Anderson, Dr. L. J. Tabler	1,000																										
Auburn, Dr. A. S. Waldo	1,601																										
Bakersfield and vic., Dr. C. A. Rogers	3,300																										
Benicia and vic., Dr. Edward Gray	2,700																										
Calistoga and vic., Dr. F. W. Mitchell	2,000																										
Cedarville, Dr. A. Gibson	200																										
Colton and vicinity, Dr. M. F. Price	2,000																										
College City and vic., Dr. C. H. Gibbons	1,000																										
Colusa, Dr. S. A. Gray	1,332																										
Cottonwood and vic., Dr. J. O. Smith	1,200																										
Cloverdale, Dr. R. S. Markell	1,500																										
Chico and vicinity, Dr. William King	8,800																										
Davisville and vicinity, Dr. W. E. Bates	1,500																										
Dixon, Dr. Aug. Trafton	1,567																										
Downeyville and vic., Dr. Alembly Jump	1,000																										
Downey and vicinity, Dr. Q. J. Rowley	2,500																										
Etta Mills, Dr. E. W. Bathurst	400																										
El Monte and vicinity, Dr. R. D. Adams	1,000																										
Elk Grove, Dr. J. A. McKee	200																										
Eureka and vicinity, Dr. S. B. Foster	10,000																										
Elsinore and vicinity, Dr. Thos. E. Ellis	1,000																										
Forest Hill and vic., Dr. Paul Reudy	3,000																										
Ft. Bidwell and vic., Dr. W. J. Wakeman	1,500																										
Fresno, Dr. W. F. Maupin	10,786																										
Galt, Dr. Alex. Montague	700																										
Grass Valley and vic., Dr. W. R. Thomas	7,000																										
Glendora, Dr. J. H. Miller	100																										
Gonzales, Dr. C. A. E. Hertel	350																										
Gridley, Dr. J. T. Harris	700																										
Haywards, Dr. G. E. Alexander	1,625																										

LOCATIONS AND AUTHORITIES.

ABSTRACT FOR NOVEMBER, 1891—Continued.

Other Causes	1	6	0	1	1	0	1	0	1	2	0	2	3	3	0	1	1	0	2	0	1	5	0	3	1	0	30	0	0	0	1	0	3		
Alcoholism	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Heart Diseases	0	0	0	0	0	0	0	0	0	0	0	2	7	2	1	0	1	1	1	0	0	1	0	0	0	0	0	4	0	0	0	0	0		
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cancer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0		
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Typho - Malarial Fever	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0		
Whooping-Cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0		
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Croup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0		
Diphtheria	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Other Diseases of St'mach & Bow'ls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	1	0	
Cholera Infantum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Diarrhœa and Dysentery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Bronchitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	
Acute Pneumonia	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4	0	0	0	1	0	
Consumption	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	
Total Deaths	2	9	0	0	1	1	0	0	1	0	0	0	6	10	1	0	0	0	0	0	0	0	0	0	0	0	69	5	6	4	0	0	0	6	2
Estimated Population	520	936	200	1,800	250	400	2,600	1,475	1,000	600	1,100	1,500	50,394	4,000	300	2,397	425	800	2,000	1,200	3,000	400	750	50,000	1,000	2,000	2,000	1,350	10,000	8,000					
LOCATIONS AND AUTHORITIES.	Hopland, Dr. C. T. Grant.....	Hanford, Dr. W. H. Miller.....	Igo, Dr. Herman Schafer.....	one and vicinity, Dr. A. L. Adams.....	Knights Ferry, Dr. James H. Lowe.....	Lockeford, Dr. E. N. Foote.....	Long Beach and vic., Dr. J. W. Wood.....	Livermore, Dr. E. M. Keys.....	Lincoln and vicinity, Dr. J. E. Hunt.....	Laporte and vicinity, Dr. M. Rinehart.....	Lakeport, Dr. P. H. Thornton.....	Lodi and vicinity, Dr. E. A. Burchard.....	Los Angeles, Dr. G. MacGowan.....	Marysville, Dr. D. Powell.....	Millville, Dr. J. N. Crabb.....	Modesto, Dr. W. J. Wilhite.....	Mariposa, Dr. W. J. Kearney.....	Middletown and vic., Dr. R. E. Hartley.....	Merced, Dr. E. S. O'Brien.....	Monterey, Dr. S. H. Smith.....	Monterey, Dr. J. B. Tennant.....	Napa and vicinity, Dr. M. B. Pond.....	National City, Dr. J. W. Keene.....	Nevada City and vic., Dr. C. L. Muller.....	Newcastle, Dr. M. Schnabel.....	Needles and vic., Dr. James P. Booth.....	Oakland, Dr. J. P. H. Dunn.....	Oakdale, Dr. R. H. Endicott.....	Oroville, Dr. J. H. M. Karnes.....	Ontario and vicinity, Dr. C. D. Watson.....	Pacific Grove, Dr. O. S. Trimmer.....	Pasadena and vic., Dr. Henry H. Sherk.....	Petaluma and vicinity, Dr. L. H. Patty.....		

REPORT OF THE STATE BOARD OF HEALTH.

115

[illegible]

DECEMBER, 1891.

Mortality reports from 115 cities, towns, villages, and localities, having an aggregate population of 796,518, show the number of deaths from all causes in December to have been 1,752, making a death rate of 2.19 per 1,000 for the month, or 26.28 per 1,000 per annum.

There were 235 deaths due to consumption, 340 to acute pneumonia, 100 to acute bronchitis, 31 to congestion of the lungs, 11 to diarrhoea and dysentery, 12 to cholera infantum, 59 to other diseases of the stomach and bowels, 58 to diphtheria, 14 to croup, 5 to scarlatina, 4 to measles, 2 to whooping-cough, 36 to typhoid fever, 4 to malarial fevers, 5 to cerebro-spinal fever, 30 to cancer, 2 to erysipelas, 113 to diseases of the heart, 17 to alcoholism, and 674 to all other causes. Of the deaths placed under other causes, la grippe is responsible directly for 49, and indirectly to the greatly increased mortality from respiratory diseases.

November reports showed 199 deaths from diseases of the lungs; December 706. There is also an increase in diphtheria over November, from 35 to 58. Deaths from croup dropped down from 25 in November to 14 in December. There is also a reduction of 5 in the number of deaths from typhoid fever. There is, however, a marked increase in deaths from diseases of the heart, 113 being reported in December against 83 in November. This has no doubt a relation to la grippe and diseases of the respiratory organs.

It would appear that if it were not the prevailing epidemic with its accompanying bronchitis, pneumonia, tonsilitis, and protean perturbing influences upon the human economy, the public health would be above the average.

PREVAILING DISEASES.

Reports from 105 towns, villages, and localities outside of the larger cities, give 8 cases of inflammation of the bowels, 5 of inflammation of the brain, 5 of cholera morbus, 17 of cholera infantum, 65 of diarrhoea, 22 of dysentery, 1 of smallpox, 74 of measles, 51 of scarlatina, 36 of diphtheria, 14 of croup, 1,791 of influenza, 50 of whooping-cough, 23 of erysipelas, 61 of typhoid fever, 139 of malarial fevers, 12 of cerebro-spinal fever, 74 of tonsilitis, 24 of inflammation of the kidneys, 20 of neuralgia, 12 of pleurisy, 244 of pneumonia, 42 of rheumatism, 233 of bronchitis, 15 of congestion of the lungs, and 43 of chickenpox.

Diseases of the stomach and bowels have decreased, and diseases of the respiratory organs have largely increased, with a corresponding increase in fatalities. La grippe is greatly responsible for this increase. In addition to the 1,791 cases of this disease enumerated by reporters, it is reported prevalent or epidemic, and associated in a greater or less degree with bronchitis, pneumonia, and tonsilitis, in Ione, Livermore, Alturas, Tulare, Cloverdale, St. Helena, Biggs, Anaheim, Monterey, Martinez, San Mateo, San Rafael, Santa Maria, Soquel, Santa Cruz, National City, Knights Ferry, Azusa, Watsonville, Gridley, Benicia, Downieville, Modesto, Jackson, Marysville, Halfmoon Bay, Stockton, Petaluma, Solano County, Healdsburg, Pasadena, Santa Rosa, Forest Hill, San Diego, Anaheim, Napa, Elk Grove, Ventura, Sebastopol, and Etna Mills. This is without taking into account San Francisco, Los Angeles, Oakland, Sacramento, and San José, where it has, by common report, prevailed quite as generally as it has among those reported from. This would run the number up into the thousands, and would account for the increased death rate from diseases of the lungs. The sequels of the epidemic will appear in the death rates of several future months under other names, but they will, nevertheless, follow as a result of la grippe. It is quite reasonable to presume that the height of intensity of the epidemic has been reached, and that it will subside from want of material to work upon. So large a percentage of the population having had the disease makes this supposition warrantable. But one case of smallpox is reported in the State, and that is in quarantine at the Sacramento Pesthouse. He came recently from the vicinity of Tulare to Sacramento. Those cases that occurred among the Chinese passengers on board ship from China to San Francisco have been, and still are, in quarantine near San Francisco. There appears to have been no spread of the disease from that source. Sacramento has for more than twenty-five years enjoyed the benefits of a State law requiring all children, before entering the public schools, to be vaccinated. The result has been that while other cities have suffered from the ravages of the pestilence, resulting in depression of business and interference with traffic, Sacramento has enjoyed comparative immunity. In no instance has the disease spread from the occasional isolated cases that have been discovered. The vaccination law is now in force in the entire State, and it is not too much to hope that the entire population may, before many years, be as fully protected as Sacramento.

EXTRACTS FROM WEATHER BUREAU REPORT.

The month can be classed as having been decidedly stormy and extreme in its conditions. The rains of the month were as follows: Red Bluff 3.8, Sacramento 3.3, San Francisco 5.6, Fresno 4.0, Los Angeles 2.0, San Diego 1.3. This is a deficiency of 1.4 inches in the Sacramento Valley, and from .9 to 1.5 in Southern California, but an excess of 1.7 at Fresno, and .5 at San Francisco. In California the mean temperature was 4° below normal, except on the coast, where it was from 1° to 2° below, and from 4° to 6° below in the interior. The warmest days were the 1st, 11th, 14th, and 15th, and the coldest were the 5th, 6th, 7th, 8th, 24th, 25th, and 26th.

Abstract of the Reports of Deaths and their Causes in California during December, 1891.

LOCATIONS AND AUTHORITIES.	1211222421170213009700005110423201423																										
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhœa and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population			
Alturas, Dr. John M. Forrest.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	550			
Alameda, Dr. John T. McLean.	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11,900			
Alvarado, Dr. Albert Fouch	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	600			
Anaheim and vicinity, Dr. J. H. Bullard.	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5,000			
Antioch and vicinity, Dr. W. S. George.	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3,000			
Auburn, Dr. A. S. Waldo	1,601	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1,601			
Azusa and vicinity, Dr. J. H. Miller.	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2,000			
Bakersfield and vicinity, Dr. C. A. Rogers	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	3,500			
Benicia and vicinity, Dr. Edward Gray	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2,850			
Berkeley, Dr. F. H. Payne	3,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	5,500			
Calistoga and vicinity, Dr. F. W. Mitchell	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,000			
Colton and vicinity, Dr. M. F. Price	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2,000			
College City, Dr. C. H. Gibbons	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1,000			
Cloverdale, Dr. R. S. Markell	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1,500			
Davisville and vicinity, Dr. W. E. Bates	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,500			
Dixon and vicinity, Dr. Aug. Trafton	1,567	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,567			
Downeyville and vic, Dr. Alembry Jump	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1,000			
Downey and vicinity, Dr. Q. J. Rowley	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	2,500			
Etta Mills and vic., Dr. E. W. Bathurst.	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,000			
El Monte and vicinity, Dr. R. D. Adams	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,000			
Elk Grove, Dr. J. A. McKee	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	200			
Eureka and vicinity, Dr. S. B. Foster	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	10,000			
Elsinore, Dr. Thos. E. Ellis	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	800			
Forest Hill and vicinity, Dr. Paul Reudy	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3,000			
Ft. Bidwell and vic., Dr. W. J. Wakeman	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,500			
Fresno, Dr. W. F. Maupin	10,796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	10,796			
Galt, Dr. Alex. Montague	700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	700			
Grass Valley and vic., Dr. W. R. Thomas	7,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	7,000			
Gonzales, Dr. C. A. E. Hertel	450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	450			
Gridley, Dr. J. T. Harris	700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	700			
Haywards, Dr. G. E. Alexander	1,625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1,625			
Healdsburg, Dr. W. B. Coffman	4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4,000			
Ione and vicinity, Dr. A. L. Adams.	1,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,800			

ABSTRACT FOR DECEMBER, 1891.—Continued.

LOCATIONS AND AUTHORITIES.	Other Causes																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Jackson and vic., Dr. E. B. Robertson	2,000	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Knights Ferry, Dr. James H. Lowe	250	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lockeford, Dr. E. N. Foote	400	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long Beach and vicinity, Dr. J. W. Wood	2,600	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Livermore, Dr. E. M. Keys	1,500	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln and vicinity, Dr. J. E. Hunt	1,000	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laporte and vicinity, Dr. M. Rinehart	600	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Los Gatos and vic., Dr. W. F. Knowles	1,645	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lodi and vicinity, Dr. E. A. Burchard	1,200	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Los Angeles, Dr. G. MacGowan	50,394	112	22	24	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marysville, Dr. D. Powell	4,000	8	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Merced, Dr. E. S. O'Brien	2,009	12	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Millville, Dr. J. N. Crabb	300	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modesto, Dr. W. J. Willhite	2,397	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mariposa and vicinity, Dr. W. J. Kearney	2,000	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Middletown and vic., Dr. R. E. Hartley	800	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monrovia, Dr. J. T. Stewart	1,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monterey, Dr. S. H. Smith	1,200	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Martinez and vicinity, Dr. J. B. Tennant	2,000	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Napa and vicinity, Dr. M. B. Pond	8,000	9	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National City, Dr. J. W. Keene	1,200	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nevada City and vicinity, Dr. C. L. Muller	3,000	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newcastle, Dr. M. Schnabel	400	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oakland, Dr. J. H. P. Dunn	50,000	110	12	26	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oakdale, Dr. R. H. Endicott	1,000	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oroville, Dr. J. H. M. Karsner	2,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ontario and vic., Dr. C. D. Watson, H. O.	2,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pasadena and vicinity, Dr. H. H. Sherk	10,000	23	6	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Petaluma and vicinity, Dr. L. H. Patty	8,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Placerville, S. D. No. 2, Dr. S. D. Marks	3,000	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plymouth and vic., Dr. W. A. Norman	1,200	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleasanton, Dr. Wm. H. Cope	8,420	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Bluff and vicinity, Dr. J. M. West	5,000	7	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REPORT OF THE STATE BOARD OF HEALTH.

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JANUARY, 1892.

Mortality reports from 118 cities, towns, villages, and localities, having an aggregate population of 819,913, show the number of deaths from all causes, in January, to have been 1,622, making a death rate of 1.97 per 1,000 for the month, or 23.64 per 1,000 per annum.

There were 223 deaths due to consumption, 285 to acute pneumonia, 75 to acute bronchitis, 12 to congestion of the lungs, 4 to diarrhoea and dysentery, 6 to cholera infantum, 43 to other diseases of the stomach and bowels, 42 to diphtheria, 16 to croup, 14 to scarlatina, 5 to measles, 7 to whooping-cough, 27 to typhoid fever, 2 to malarial fevers, 10 to cerebro-spinal fever, 44 to cancer, 4 to erysipelas, 110 to diseases of the heart, 12 to alcoholism, 96 to la grippe, and to all other causes 585.

There were 595 deaths from diseases of the lungs in January, as against 706 in December, and 42 from diphtheria, as against 58 in December, and 27 of typhoid fever, as against 36 in December. There was, however, an increase in mortality from la grippe, from 49 in December, to 96 in January. The death rate is, nevertheless, lowered from 2.19, in December, to 1.97 in January.

PREVAILING DISEASES.

Reports from 107 towns, villages, and localities, outside of the larger cities, give 7 of inflammation of the bowels, 5 of cholera morbus, 5 of cholera infantum, 81 of diarrhoea, 19 of dysentery, 102 of measles, 129 of scarlatina, 39 of diphtheria, 20 of croup, 1,798 of influenza, 191 of whooping-cough, 40 of erysipelas, 58 of typhoid fever, 118 of malarial fevers, 9 of cerebro-spinal fever, 174 of tonsillitis, 26 of inflammation of the kidneys, 89 of neuralgia, 35 of pleurisy, 154 of pneumonia, 80 of rheumatism, 381 of bronchitis, 27 of congestion of the lungs, 5 of chickenpox, 16 of pharyngitis, and 3 of inflammation of the brain.

There seems to have been no diminution in the prevalence of influenza, as it is reported from all quarters, and the mortality from that cause has nearly doubled in January.

The smallpox patient admitted to the Sacramento Pesthouse in December has been discharged as cured, and no new cases have appeared. The Chinese at the San Francisco quarantine station have also been discharged. The State is, at this time, free from smallpox.

ABSTRACT FOR JANUARY, 1892—Continued.

Other Causes	1	1	1	2	5	2	0	3	3	1	2	1	1	1	4	3	3	4	1	2	0	6	2	1	2	6	2	3	0	0	0	0	3	0	1	1	4	6
Alcoholism.....	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heart Diseases	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	6	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
Erysipelas.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cancer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	1	0	1	1	1	0	0	0	3	0	0	0		
Cerebro - Spinal Fevers	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0		
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Typhoid Fever	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Typho - Malarial Fever.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Whooping-Cough.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0		
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0			
Croup.....	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Diphtheria	0	0	1	0	5	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Other Diseases of St'mach & Bow'ls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0			
Cholera Infantum.....	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Diarrhoea and Dysentery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Acute Bronchitis.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	6	0	0	0	1	0		
Acute Pneumonia.....	0	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2		
Consumption.....	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Deaths	2	3	3	8	10	0	5	11	1	4	2	0	0	0	0	6	1	2	30	2	1	0	0	0	0	0	0	0	1	0	0	0	12	7	1	0	1	
Estimated Population	450	700	3,800	4,000	1,771	200	1,800	2,000	400	1,500	1,000	600	1,645	1,500	50,394	4,000	2,009	300	4,000	2,000	800	1,200	2,000	1,200	3,000	400	100	750	50,000	1,000	2,000	10,000	8,000					
LOCATIONS AND AUTHORITIES.	Goazales, Dr. C. A. E. Hertel	Gridley, Dr. J. T. Harris	Haywards and vic, Dr. G. E. Alexander	Healdsburg, Dr. W. B. Coffman	Hollister, Dr. J. H. Tebbetts	Igo, Dr. Herman Schafer	Ione and vicinity, Dr. A. L. Adams	Jackson and vic, Dr. E. R. Robertson	Lockeford, Dr. E. N. Foote	Livermore, Dr. E. M. Keys	Lincoln and vicinity, Dr. T. E. Hunt	Laporte and vic, Dr. Olando Pearson	Los Gatos and vic, Dr. F. W. Knowles	Lodi and vicinity, Dr. E. A. Burchard	Los Angeles, Dr. G. MacGowan	Marysville, Dr. D. Powell	Merced, Dr. E. S. O'Brien	Millville, Dr. J. N. Crabb	Modesto and vicinity, Dr. W. J. Wilhite	Mariposa and vic, Dr. W. J. Kearney	Middletown and vic, Dr. R. E. Hartley	Monterey, Dr. S. H. Smith	Martinez and vic, Dr. J. B. Tennant	National City, Dr. J. W. Keene	Nevada City and vic, Dr. C. L. Muller	Newcastle, Dr. M. Schnabel	Nicolaus, Dr. V. B. Watson	Needles and vic, Dr. James P. Booth	Oakland, Dr. J. P. Dunn, H. O.	Oakdale, Dr. R. H. Endicott	Oroville, Dr. J. H. M. Karsner	Pasadena and vic, Dr. Henry H. Sherk	Petaluma and vicinity, Dr. L. H. Patty					

REPORT OF THE STATE BOARD OF HEALTH.

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ABSTRACT FOR JANUARY, 1892—Continued.

LOCATIONS AND AUTHORITIES.											
	1 0 1 1 1 1 0 2										
Other Causes											681
Alcoholism											12
Heart Diseases											110
Erysipelas											4
Cancer											44
Cerebro - Spinal Fevers											10
Remittent and Intermittent Fevers											2
Typhoid Fever											27
Typho - Malarial Fever											0
Whooping-Cough											7
Smallpox											0
Measles											5
Scarlet Fever											14
Croup											16
Diphtheria											42
Other Diseases of St'mach & Bow'ls											43
Cholera Infantum											6
Diarrhoea and Dysentery											4
Congestion of the Lungs											12
Acute Bronchitis											75
Acute Pneumonia											235
Consumption											223
Total Deaths	1	0	2	1	2	1	1	1	3		1,622
Estimated Population	600	700	1,000	3,000	500	300	5,469				819,913
	Washington and vic., Dr. B. Woodbridge.	Wheatland, Dr. Lewis Melton.	Winters and vicinity, Dr. Z. T. Magill.	Willows and vicinity, Dr. L. P. Tooley.	Williams, Dr. A. W. Kimball.	Woodbridge, Dr. S. E. Latta.	Yuba City and vicinity, Dr. T. P. Perry.				Totals

FEBRUARY, 1892.

Mortality reports from 118 cities, towns, villages, and localities, having an aggregate population of 813,877, show the number of deaths from all causes in February to have been 1,208, making a death rate of 1.48 per 1,000 for the month, or 17.76 per 1,000 per annum.

There were 129 deaths due to consumption, 122 to acute pneumonia, 57 to acute bronchitis, 12 to congestion of the lungs, 2 to diarrhoea and dysentery, 3 to cholera infantum, 43 to other diseases of the stomach and bowels, 42 to diphtheria, 9 to croup, 14 to scarlatina, 14 to measles, 6 to whooping-cough, 17 to typhoid fever, 10 to cerebro-spinal fever, 27 to cancer, 3 to erysipelas, 65 to diseases of the heart, 9 to alcoholism, 29 to la grippe, and to all other causes 535.

The death rate per 1,000 has decreased from 1.97 in January to 1.48 in February.

The most marked reduction in the death rate appears to be in diseases of the respiratory organs. In January there were 595 deaths from diseases of the lungs, while in February there were 380, being a reduction of 215.

The fatalities from la grippe fell from 96 in January to 29 in February, and deaths from diseases of the heart dropped from 110 in January to 65 in February.

PREVAILING DISEASES.

Reports from 109 towns, villages, and localities outside of the larger cities, give 8 cases of inflammation of the bowels, 13 of cholera morbus, 5 of cholera infantum, 84 of diarrhoea, 29 of dysentery, 173 of measles, 37 of scarlatina, 18 of diphtheria, 5 of croup, 558 of influenza, 125 of whooping-cough, 30 of erysipelas, 22 of typhoid fever, 176 of malarial fevers, 118 of tonsillitis, 5 of inflammation of the kidneys, 69 of neuralgia, 34 of pleurisy, 96 of pneumonia, 79 of rheumatism, 224 of bronchitis, 2 of congestion of the lungs, 4 of chickenpox, 20 of pharyngitis, and 6 of inflammation of the brain.

There is a great reduction in the prevalence of la grippe. One thousand seven hundred and ninety-eight cases were reported from the smaller towns in January, and but 558 in February. It is abating everywhere, except in a few localities where the cold weather prevails. Measles and whooping-cough are epidemic in several places. Fresno has an advanced case of leprosy in a Chinese.

Abstract of the Reports of Deaths and their Causes in California during February, 1892.

LOCATIONS AND AUTHORITIES.																										
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhœa and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population		
Alturas, Dr. John M. Forrest.	1	3	0	4	0	1	5	2	5	2	1	0	0	0	0	4	1	1	1	1	1	1	1	550		
Alameda, Dr. John T. McLean.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	11,900		
Alvarado and vic, Dr. Albert Fouch.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	600		
Anaheim and vic, Dr. J. H. Bullard.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5,000		
Anderson, Dr. O. P. Paulding.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,000		
Azusa and vicinity, Dr. J. H. Miller.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2,000		
Bakersfield and vic, Dr. C. A. Rogers.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,600		
Benicia and vicinity, Dr. Edward Gray.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2,850		
Berkeley, Dr. F. H. Payne.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	5,500		
Calistoga and vic, Dr. F. W. Mitchell.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2,000		
Colton and vicinity, Dr. M. F. Price.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2,000		
College City, Dr. C. H. Gibbons.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,000		
Cottonwood and vic, Dr. J. O. Smith.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,200		
Cloverdale, Dr. R. S. Markell.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,500		
Chico and vicinity, Dr. William King.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8,890		
Downville and vic, Dr. Alembly Jump.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,000		
Downey and vicinity, Dr. Q. J. Rowley.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2,500		
Etna Mills and vic, Dr. E. W. Bathurst.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,000		
El Monte and vic, Dr. R. D. Adams.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1,650		
Elk Grove, Dr. J. H. McKee.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	200		
Eureka and vicinity, Dr. S. B. Foster.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	10,000		
Elsinore and vic, Dr. Thomas E. Ellis.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1,000		
Forest Hill and vic, Dr. Paul Reudy.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3,000		
Fresno, Dr. W. F. Maupin.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	10,796		
Folsom, John Harris, H. O.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1,960		
Grass Valley and vic, Dr. W. R. Thomas.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7,000		
Gonzales, Dr. C. A. E. Hertel.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	450		
Gridley, Dr. J. T. Harris.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	700		
Haywards and vic, Dr. G. E. Alexander.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3,800		
Healdsburg, Dr. W. B. Coffman.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4,000		
Hopland, Dr. C. T. Grant.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	520		
Hollister, Dr. J. H. Tebbetts.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1,771		
Yone and vicinity, Dr. A. L. Adams.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,800		

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ABSTRACT FOR FEBRUARY, 1892—Continued.

LOCATIONS AND AUTHORITIES.	Estimated Popula- tion	Total Deaths	Consumption	Acute Pneumonia.	Acute Bronchitis..	Congestion of the Lungs	Diarrhoea and Dys- entery	Cholera Infantum.	Other Diseases of St'mach & Bow'ls	Diphtheria	Croup	Scarlet Fever	Measles.....	Smallpox	Whooping-Cough..	Typho - Malarial Fever.....	Typhoid Fever	Remittent and In- termittent Fevers	Cerebro - Spinal Fever.....	Cancer	Erysipelas.....	Heart Diseases	Alcoholism	Other Causes
Santa Barbara, Dr. R. F. Winchester.....	5,864	11	5	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
Santa Cruz and vic. Dr. B. A. Plant, H. O.	10,000	11	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Santa Rosa, Dr. R. P. Smith.....	5,216	6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sausalito and vic., Dr. G. C. Macdonald	2,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Selma and vicinity	3,000	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockton, Dr. C. A. Ruggles.....	14,876	22	4	2	0	1	0	0	0	3	0	0	0	0	0	0	1	0	0	0	2	0	0	0
St. Helena and vic. Dr. W. J. G. Dawson	2,800	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suisun and vic. Dr. J. W. B. Reynolds	4,000	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Susannah and vic. Dr. A. Milliken	800	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soquel and vicinity, Dr. H. O. Brink	400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Truckee and vicinity, Dr. W. Curless	1,300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tulare City, Dr. C. F. Taggart.....	2,000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Upper Lake, Dr. R. G. Reynolds	300	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Vallejo and vic. Dr. W. D. Anderson	6,000	8	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Ventura and vic. Dr. A. J. Comstock	9,000	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Watsonville and vic. Dr. W. D. Rodgers	2,500	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Winters and vicinity, Dr. Z. T. Magill	1,000	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Willows and vicinity, Dr. L. P. Tooley	3,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Williams, Dr. A. W. Kimball	500	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yuba City, Dr. T. P. Perry	700	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	813,877	1,208	189	122	57	12	2	3	43	42	9	14	14	0	6	0	17	0	10	27	3	65	9	564

Including the following towns, reporting no deaths: Auburn (pop., 1,601), Biggs (pop., 750), Calico and vicinity (pop., 1,500), Davisville and vicinity (pop., 1,500), Dixon and vicinity (pop., 2,500), Galt (pop., 700), Igo (pop., 200), Knights Ferry (pop., 250), Lincoln and vicinity (pop., 1,000), Millville (pop., 300), Nicolaus (pop., 100), Oakdale (pop., 1,000), Placerville (pop., 1,684), San Mateo and vicinity (pop., 2,000), Santa Paula and vicinity (pop., 2,000), Sebastopol (pop., 500), Sierra Valley and vicinity (pop., 1,000), Vacaville (pop., 4,500), Wheatland (pop., 700), Woodbridge (pop., 300).

MARCH, 1892.

Mortality reports from 116 cities, towns, villages, and localities, having an aggregate population of 813,821, show 1,176 deaths from all causes during the month of March. This corresponds to a death rate of 1.44 per 1,000 for March, or 17.28 per 1,000 per annum.

There were 191 deaths due to consumption, 89 to pneumonia, 39 to acute bronchitis, 11 to congestion of the lungs, 1 to diarrhoea, 1 to cholera infantum, 55 to other diseases of the stomach and bowels, 32 to diphtheria, 10 to croup, 14 to scarlatina, 12 to measles, 8 to whooping-cough, 19 to typhoid fever, 3 to malarial fevers, 4 to cerebro-spinal fever, 34 to cancer, 2 to erysipelas, 109 to diseases of the heart, 9 to alcoholism, 9 to influenza, and 533 to all other causes.

This shows a continued reduction in fatalities from respiratory diseases. In January there were 595 deaths from diseases of the lungs, in February 380, and in March 330.

There were 96 deaths in January from la grippe, 29 in February, and 9 in March.

January showed 110 deaths from diseases of the heart, February 65, and March 109.

Any reasons that might be advanced for these sudden fluctuations must necessarily be conjectural.

PREVAILING DISEASES.

Reports of prevailing diseases from 105 towns, villages, and localities outside of the large cities, show 60 cases of acute pneumonia, 21 of pleuritis, 209 of acute bronchitis, 5 of congestion of the lungs, 72 of diarrhoea, 30 of dysentery, three of cholera infantum, 4 of cholera morbus, 13 of diphtheria, 8 of croup, 93 of scarlatina, 90 of measles, 141 of whooping-cough, 181 of malarial fevers, 56 of typhoid fever, 6 of cerebro-spinal fever, 23 of erysipelas, 2 of inflammation of the brain, 11 of inflammation of the bowels, 15 of inflammation of the kidneys, 272 of influenza, 73 of neuralgia, 2 of puerperal fever, 79 of rheumatism, 83 of tonsilitis, 30 of pharyngitis, and one of chickenpox.

Measles are reported prevalent at Elk Grove, Monrovia, Watsonville, Folsom, and San Diego.

Sierra Valley reported 25 cases of scarlatina, Wheatland 23, Needles 20, and Santa Rosa 12. Fatalities have been very light, as the fever has been of a mild type.

Whooping-cough has been epidemic at Azusa, and has prevailed to some extent at Monrovia, Martinez, Auburn, Watsonville, and Marysville. Mumps has been reported from many different points.

Lodi and vicinity	Dr. E. A. Burchard	2,500
Los Angeles, Dr. G. MacGowan		50,394
Marysville, Dr. D. Powell		5,000
Merced, Dr. E. S. O'Brien		2,069
Millville, Dr. J. N. Crabb		300
Mariposa and vic.	Dr. W. J. Kearney	1,000
Middletown and vic.	Dr. R. E. Hartley	800
Maera, Dr. J. L. Burin		1,500
Monrovia, Dr. J. T. Stewart		1,000
Monterey, Dr. S. H. Smith		1,200
Martinez, Dr. J. B. Tennant		1,500
Napa, Dr. M. B. Pond		4,387
Nevada City and vic.	Dr. C. L. Muller	3,000
North Temescal and vic.	Dr. B. Mouser	3,000
Oakland, Dr. J. P. H. Dunn, H. O.		50,000
Oakdale, Dr. K. H. Endicott		1,000
Oroville, Dr. J. H. M. Karsner		2,000
Ontario and vic., Dr. C. D. Watson, H. O.		2,300
Pasadena and vic., Dr. Henry H. Sherk		10,000
Petaluma and vicinity, Dr. L. H. Patty		8,000
Placerville, S. D. No. 2, Dr. L. D. Marks		3,000
Pomona and vicinity, Dr. R. T. Rose		5,000
Pleasanton and vic., Dr. Wm. H. Cope		800
Red Bluff and vicinity, Dr. J. M. West		5,000
Redding and vicinity, Dr. F. P. Mitchell		3,000
Redlands and vicinity, Dr. J. M. Wheat		3,600
Rio Vista and vicinity, Dr. B. Dozier		1,900
Rocklin, Dr. A. M. Stafford		1,020
Roseville, Dr. R. H. Ashby		450
Sacramento, Dr. C. B. Nichols		28,272
San Bernardino Co., Dr. Wainwright		29,502
San Diego, Dr. Thos. L. Magee		16,153
San Francisco, Dr. J. W. Keeney		330,000
San José, Dr. J. R. Curnow		18,027
San Mateo, Dr. I. R. Goodspeed		1,170
Santa Barbara, Dr. R. F. Winchester		5,884
Santa Cruz and vicinity, Dr. B. A. Plant		10,000
Santa Rosa, Dr. R. P. Smith		5,216
Santa Paula and vic., Dr. D. W. Mott		2,000
Sausalito and vic., Dr. G. C. MacDonald		2,000
San Leandro, Dr. O. J. Lynch		2,500
Selma and vicinity, Dr. E. E. Brown		3,000
Sierra Valley and vic., Dr. M. Pritchard		1,000
Stockton, Dr. C. A. Ruggles		14,376
Helena and vic., Dr. W. J. G. Dawson		2,800

ABSTRACT FOR MARCH, 1892—Continued.

LOCATIONS AND AUTHORITIES.	Estimated Popula- tion	Total Deaths	Consumption.....	Acute Pneumonia..	Acute Bronchitis..	Congestion of the Lungs	Dysentery	Cholera Infantum.	Other Diseases of St'mach & Bow'ls	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping-Cough..	Typho - Malarial Fever.....	Typhoid Fever	Remittent and In- termittent Fevers	Cerebro - Spinal Fever	Cancer	Erysipelas	Heart Diseases	Alcoholism	Other Causes	
	4,000	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
	Suisun and vic., Dr. J. W. B. Reynolds.....	5,469	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
	Sutter County, Dr. T. T. Perry	400	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
	Sequel and vicinity, Dr. H. O. Brink	400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Templeton and vic., Dr. O. P. Paulding	1,300	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Truckee and vicinity, Dr. W. Curless	2,000	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Tulare City, Dr. C. F. Taggart	6,000	13	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Vallejo and vic., Dr. W. D. Anderson	9,000	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Ventura and vic., Dr. A. J. Comstock	4,500	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Vacaville and vicinity, Dr. J. W. Stitt	2,500	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Watsonville and vic., Dr. W. D. Rodgers	700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Wheatland and vic., Dr. Lewis Melton	3,000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Willows and vicinity, Dr. Rooney	300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Woodbridge, Dr. S. E. Latta	3,069	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Woodland, R. B. Mosby, H. O.																								
	Totals	783,684	1,176	191	89	39	11	1	1	55	32	10	14	12	0	8	0	19	3	4	34	2	109	9	533

Including the following towns reporting no deaths: Anderson (pop., 1,000), Calico (pop., 500), College City (pop., 1,000), Downieville and vicinity (pop., 1,000), Fort Bidwell and vicinity (pop., 1,500), Fresno (pop., 10,786), Fresno Flats, (pop., 600), Gonzales (pop., 350), Halfmoon Bay (pop., 450), Igo (pop., 200), Knights Ferry (pop., 250), Livermore (pop., 1,500), Lincoln (pop., 1,000), Lakeport (pop., 1,000), National City (pop., 1,200), Nicolaus (pop., 400), Needles and vicinity (pop., 750), San Rafael (pop., 3,881), Santa Maria (pop., 1,000), Sebastopol (pop., 500), Tehama (pop., 350), Upper Lake (pop., 300), Winters and vicinity (pop., 1,000), and Williams (pop., 500).

APRIL, 1892.

Mortality reports from 117 cities, towns, villages, and localities, having an aggregate population of 789,931, show 1,027 deaths from all causes during the month of April. This corresponds to a death rate of 1.030 per 1,000 for April, or 15.80 per 1,000 per annum.

There were 195 deaths due to consumption, 76 to pneumonia, 35 to acute bronchitis, 10 to congestion of the lungs, 9 to diarrhoea and dysentery, 5 to cholera infantum, 41 to other diseases of stomach and bowels, 26 to diphtheria, 11 to croup, 6 to scarlatina, 9 to measles, 11 to whooping-cough, 15 to typhoid fever, 4 to malarial fevers, 8 to cerebro-spinal fever, 39 to cancer, 2 to erysipelas, 84 to diseases of the heart, 9 to alcoholism, 2 to influenza, and 430 to all other causes.

This shows a continued though small reduction in fatalities from respiratory diseases.

In January there were 595 deaths from diseases of the lungs, in February 380, in March 330, and in April 306.

There were 96 deaths in January from la grippe, 29 in February, 9 in March, and 2 in April.

There were 6 deaths from scarlatina in April as against 14 in March.

PREVAILING DISEASES.

Reports of prevailing diseases from 85 towns, villages, and localities outside of the large cities, show 54 cases of acute pneumonia, 21 of pleurisy, 222 of acute bronchitis, 5 of congestion of the lungs, 180 of diarrhoea, 55 of dysentery, 10 of cholera infantum, 19 of cholera morbus, 13 of diphtheria, 20 of croup, 36 of scarlatina, 72 of measles, 87 of whooping-cough, 191 of malarial fevers, 17 of typhoid fever, 1 of cerebro-spinal fever, 49 of erysipelas, 4 of inflammation of the brain, 15 of inflammation of the bowels, 15 of inflammation of the kidneys, 174 of influenza, 76 of neuralgia, 104 of rheumatism, 89 of tonsillitis, and 27 of pharyngitis.

Measles is reported prevalent at Merced and Azusa.

There does not appear to have been any prevailing disease in April, but the temperature was below normal during the entire month, with unusually cloudy weather and damp atmosphere. There have been in consequence considerable rheumatism, neuralgia, and many sore throats.

On April 21st, a case of varioloid was discovered in Berkeley, Alameda County, in a married man, 25 years of age, by occupation a handler of foreign goods. The origin is unknown, but the patient stated to the local Health Officer, Dr. F. H. Payne, that about 10 days before he was attacked, a muffled Chinaman, having sores on his face, took a seat in a car next to him on the local train from San Francisco. No such Chinaman has yet been found. Strict quarantine, isolation, and vaccination were the restrictive and preventive measures adopted, and no new cases have developed yet.

On May 3d a case of varioloid was discovered on a fishing boat, on the Sacramento River, 4 miles above Sacramento City. The afflicted person is a native of the Sandwich Islands, aged 37 years, and came directly from San Francisco. Before being sent to the pesthouse, he walked with a companion from the wharf through 7 blocks of the business portion of the city, and voluntarily presented himself to the local authorities. The isolation of pesthouse regulations has been applied to the patient and his companion.

Abstract of the Reports of Deaths and their Causes in California during April, 1892.

Other Causes	13221000521030111410111836100010121221
Alcoholism	00

ABSTRACT FOR APRIL, 1892—Continued.

LOCATIONS AND AUTHORITIES.	Estimated Popula- tion	Total Deaths																		
		3	14	4	1	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0
Sausalito and vic., Dr. G. C. Macdonald.	2,000																			
Stockton, Dr. C. A. Ruggles.	14,376																			
St. Helena and vic., Dr. W. J. G. Dawson.	2,800																			
Suisun and vic., Dr. J. W. B. Reynolds.	4,000																			
Sutter County, Dr. T. P. Perry.	5,469																			
North Temescal, Dr. B. T. Mouser.	3,000																			
Truckee and vicinity, Dr. W. Curless.	1,300																			
Tulare City, Dr. C. F. Taggart.	2,000																			
Ventura and vic., Dr. A. J. Comstock.	9,000																			
Vacaville and vicinity, Dr. J. W. Stitt.	4,500																			
Watsonville and vic., Dr. W. D. Rodgers.	2,500																			
Winters and vicinity, Dr. Z. T. Magill.	1,000																			
Williams, Dr. A. W. Kimball.	500																			
Woodland, R. B. Mosby, H. O.	3,069																			
Totals	789,931	1,027	195	76	35	10	9	5	41	26	11	6	9	0	11	0	15	4	8	39

Included in the above are the following places reporting no deaths: Calico (pop., 500), Calistoga and vicinity (pop., 2,000), Cedarville (pop., 200), Downieville and vicinity (pop., 1,000), Elsinore (pop., 800), Fort Bidwell and vicinity (pop., 1,300), Igo (pop., 200), Jackson and vicinity (pop., 2,000), Knights Ferry (pop., 250), Lockeford (pop., 400), Lincoln (pop., 1,000), Merced (pop., 2,000), Nicolaus (pop., 100), Oakdale (pop., 1,000), Pacific Grove (pop., —), Placerville and vicinity (pop., 1,634), Roseville (pop., 450), Sebastopol (pop., 500), Sierra Valley and vicinity (pop., 1,000), Soquel and vicinity (pop., 400), Templeton and vicinity (pop., 400), Tehama (pop., 350), Upper Lake (pop., 300), Wheatland (pop., 700), and Woodbridge (pop., 300).

MAY, 1892.

Mortality reports from 110 cities, towns, villages, and sanitary districts, having an aggregate population of 804,553, show 1,056 deaths from all causes during the month of May. This corresponds to a death rate of 1.31 per 1,000 for May, or 15.72 per annum.

There were 162 deaths due to consumption, 66 to pneumonia, 41 to bronchitis, 8 to congestion of the lungs, 10 to diarrhoea and dysentery, 17 to cholera infantum, 44 to other diseases of the stomach and bowels, 29 to diphtheria, 11 to croup, 15 to scarlatina, 6 to measles, 11 to whooping-cough, 14 to typhoid fever, 5 to malarial fevers, 1 to cerebro-spinal fever, 31 to cancer, 4 to erysipelas, 95 to diseases of the heart, 6 to alcoholism, 2 to influenza, and 478 to all other causes.

This shows a continued though small reduction in fatalities from respiratory diseases.

In January there were 595 deaths from diseases of the lungs, in February 380, in March 330, in April 306, and in May 277.

There were 96 deaths in January from la grippe, 29 in February, 9 in March, 2 in April, and 2 in May.

PREVAILING DISEASES.

Reports of prevailing diseases from 70 towns and sanitary districts outside of the large cities, show 18 cases of acute pneumonia, 17 of pleurisy, 135 of acute bronchitis, 5 of congestion of the lungs, 154 of diarrhoea, 65 of dysentery, 25 of cholera infantum, 42 of cholera morbus, 31 of diphtheria, 6 of croup, 23 of scarlatina, 57 of measles, 83 of whooping-cough, 150 of malarial fevers, 18 of typhoid fever, 30 of erysipelas, 17 of inflammation of the brain, 17 of inflammation of the bowels, 10 of inflammation of the kidneys, 63 of influenza, 77 of neuralgia, 70 of rheumatism, and 89 of tonsillitis.

Measles is reported at Merced and Santa Clara, but is also prevalent in other places. Whooping-cough prevailed in a number of localities. Diphtheria was reported epidemic at Riverside and College City, and scarlatina at Merced.

The case of varioloid at Berkeley and the one at Sacramento have both been discharged, and although sufficient time has elapsed, no new cases have developed.

Another case was reported from San Pablo, Contra Costa County, but it has been impossible to obtain reliable data concerning the previous history of the man afflicted. The usual precautions were adopted, and the patient will soon be, if he is not already, discharged.

A case of leprosy was recently discovered in Oakland, which came not long ago from the Hawaiian Islands. The local Board of Health was disturbed concerning the disposition which should be made of the case, inasmuch as there are no accommodations for lepers in California, outside of the county pesthouses. The leper (a woman) relieved the city of her unwelcome presence, and was next found in the City and County Hospital in San Francisco. The Health Department of Oakland is naturally solicitous concerning the large family of which the leprous woman was a member, all of whom are still domiciled there, including the woman's infant, only 2 months old.

The following resolution by the Oakland Board of Health will show the helpless condition in which any city or county may find itself placed, when brought to confront an unusual sanitary problem. There is appended, also, an extract from a letter by Dr. William M. Lawlor, Quarantine Officer and United States Quarantine Inspector at San Francisco:

"OAKLAND, CAL., June 4, 1892.

"Resolved, That the Secretary notify the State Board of Health of there being a large family in Oakland, one of the members of which, a woman with leprosy, was recently taken to the pesthouse in San Francisco;

"That her child, two months old, is still with the family in Oakland;

"That this family recently came from the Sandwich Islands;

"That the woman had leprosy before leaving the Sandwich Islands, but was permitted to land in San Francisco, from which place they came to Oakland;

"What measures should be taken, if any, in dealing with this family?

"Yours respectfully,

"PAUL J. SCHAFER,

"Secretary of the Board of Health of the City of Oakland."

The following is an explanatory extract from a letter by Dr. William M. Lawlor, Quarantine Officer at San Francisco:

"I have made inquiries as to the case of leprosy that was discovered in Oakland, and subsequently found in the City and County Hospital. From all that I can learn, the patient is afflicted with the disease in her hands and feet. I call attention to the fact that as leprosy is not a disease that comes under the head of strict quarantine regulations, such as smallpox or the other contagious diseases, that it would be an easy matter for a person afflicted, as the case under consideration, to pass my inspection without detection, and in this connection I wish to call attention to the fact that the case under discussion was in the hospital from Monday until the following Saturday without being discovered as a case of leprosy. It is the custom of this department to see and personally pass upon every soul aboard of all incoming vessels from foreign ports, and the strictest supervision is exercised to prevent the introduction of contagious diseases. We are of opinion that the above case comes strictly under the head of the United States Immigration Department, for upon the discovery of such a case the vessel wor-

detained, but the case of leprosy should be immediately returned to the port from which it came, and such action would have to be taken by the United States Immigration Inspector. Several cases have recently been discovered by this department, and reported to the Immigration Inspector, and have by him been returned. In this connection, I would respectfully suggest to the Governor the propriety of calling the attention of the authorities at Washington to the urgent necessity of having a competent medical officer connected with the United States Immigration Department, to make the examinations of all passengers coming under the Immigration Act, and by this means have a double check on all cases likely to be imported into the State. With leprosy, the most urgent and complete vigilance should be exercised to prevent its introduction, for we are menaced with this danger by the large and increasing immigration from the Hawaiian Islands of a class of immigrants in the extreme undesirable, consisting of the poorest class of Portuguese and Japanese, who have been working under contract. The resolutions passed by the Oakland Board of Health, with reference to the family, show the necessity of having a State lazaretto established, where such cases could be kept under observation. Leprosy cases are liable to be discovered and developed in any county of the State; they are liable to be introduced at any time by persons having the disease, and not having discovered it, or, having the germs in their system, it is developed at a later period. Such cases should not be thrown on San Francisco County simply because they were obliged to enter the State by the port of San Francisco."

It does not matter what legal points this case may involve. It serves merely to indicate that it must soon become the duty of the State to care for the unfortunates who may be found afflicted with this incurable and loathsome disease, within the borders of its territory, in a manner more appropriate and humane than in the county pesthouses.

Nearly every populous county in the State has more than once cared for lepers in pesthouses, but San Francisco has borne the greatest share of the burden. Those counties which have found it inconvenient to erect pesthouses, have kindly assisted the afflicted person to the metropolis, and in this way a considerable number have been cared for nearly all the time, which properly belonged in other counties. Sacramento has had a number of cases. Yolo had one or two in recent years. Fresno had one not long ago.

The State Board of Health has under consideration a bill, to be presented to the next Legislature, providing for a lazaretto in which to sequester this class of incurables, for all must agree that it is neither prudent nor proper to treat them as they are now being cared for.

Abstract of the Reports of Deaths and their Causes in California during May, 1892.

Other Causes	0	11	2	3	1	1	1	1	1	0	2	0	0	2	0	1	0	5	3	0	1	2	0	0	0	9	0	1	0	1	0	0	0	0
Alcoholism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heart Diseases	0	1	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cancer	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Typho - Malarial Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whooping-Cough..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Croup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Diseases of St'mach & Bow'ls	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cholera Infantum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhoea and Dysentery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute Bronchitis ..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute Pneumonia ..	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Consumption	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Deaths	0	17	4	0	6	2	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Estimated Population	550	12,000	5,000	1,000	1,000	1,601	2,000	2,000	5,500	750	500	2,000	800	2,000	700	1,200	1,500	8,890	1,500	1,567	1,000	2,500	1,000	1,000	1,000	10,000	1,500	600	10,786	1,980	700	5,000	500	700
LOCATIONS AND AUTHORITIES.	Alturas, Dr. John M. Forrest Alameda, Dr. John T. McLean Anaheim and vicinity, Dr. J. H. Bullard Antioch and vicinity, Dr. W. S. George Anderson, Dr. L. J. Tabler Auburn, Dr. A. S. Waldo Azusa and vicinity, Dr. J. H. Miller Berkeley, Dr. F. H. Payne Biggs, Dr. O. C. Hawkins Calico, Dr. A. R. Rhea Calistoga, Dr. F. W. Mitchell Carpenteria and vicinity, Dr. R. Cauch Colton and vicinity, Dr. M. F. Price College City, Dr. C. H. Gibbons Cottonwood and vicinity, Dr. J. O. Smith Cloverdale, Dr. R. S. Markell Chico and vicinity, Dr. William King Davisville, Dr. W. E. Bates Dixon, Dr. Aug. Trafton Downeyville and vic., Dr. Alembry Jump Downey and vicinity, Dr. Q. J. Rowley Etna Mills and vic., Dr. E. W. Bathurst El Monte and vicinity, Dr. R. D. Adams Elk Grove, Dr. J. H. McKee Eureka and vicinity, Dr. S. B. Foster Ft. Bidwell and vic., Dr. W. J. Wakeman Fresno Flats, Dr. J. N. McGowan Fresno, Dr. W. T. Maupin Folsom, John Harris, H. O. Galt, Dr. Alex. Montague Grass Valley, Dr. W. E. Thomas Marzadas and Soledad, Dr. C. A. E. Hertel Mayfield, Dr. J. T. Harris																																	

ABSTRACT FOR MAY, 1892—Continued.

LOCATIONS AND AUTHORITIES.	Other Causes	3,800
	Alcoholism	2,000
	Heart Diseases	1,800
	Erysipelas	2,000
	Cancer	250
	Cerebro - Spinal Fevers	400
	Remittent and Intermittent Fevers	2,600
	Typhoid Fever	1,500
	Typho - Malarial Fever	1,000
	Whooping-Cough	1,800
	Smallpox	800
	Measles	1,500
	Scarlet Fever	1,000
	Croup	1,800
	Diphtheria	1,500
	Other Diseases of St'mach & Bow'ls	1,650
	Cholera Infantum	65,000
	Diarrhœa and Dysentery	6,000
	Congestion of the Lungs	2,009
	Acute Bronchitis	4,000
	Acute Pneumonia	800
	Consumption	400
	Total Deaths	1,200
	Estimated Population	6,000
	Haywards and vic, Dr. G. E. Alexander.....	1,200
	Hollister, Dr. J. H. Tebbetts	6,000
	Ione and vicinity, Dr. A. L. Adams	1,200
Jackson and vicinity, Dr. E. B. Robertson	3,000	
Knights Ferry, Dr. James H. Lowe	175	
Lockeford, Dr. E. N. Foote	100	
Long Beach and vic, Dr. J. W. Wood	750	
Livermore, Dr. E. M. Keys	50,000	
Lincoln, Dr. T. E. Hunt	1,000	
Laporte and vicinity, Dr. Olando Pearson	2,000	
Lakeport and vic, Dr. P. H. Thornton	10,000	
Los Gatos, Dr. F. W. Knowles	3,000	
Los Angeles, Dr. G. MacGowan	800	
Marysville, Dr. D. Powell	1,200	
Merced, Dr. E. S. O'Brien	800	
Modesto and vic, Dr. W. J. Wilhite	1,200	
Middletown and vic, Dr. R. E. Hartley	1,200	
Madera, Dr. J. L. Burtin	1,200	
Monterey, David Roderick	1,200	
Napa, Dr. M. B. Pond	1,200	
National City, Dr. J. W. Keene	1,200	
Nevada City and vic, Dr. C. L. Muller	1,200	
Newcastle, Dr. M. Schnabel	1,200	
Nicolaus, Dr. W. L. Short	1,200	
Needles and vic, Dr. James P. Booth	1,200	
Oakland, Dr. J. P. H. Dunn	1,200	
Oakdale, Dr. R. H. Endicott	1,200	
Oroville, Dr. J. H. M. Karsner	1,200	
Ontario and vicinity, Dr. C. D. Watson	1,200	
Pasadena and vic, Dr. Henry H. Sherk	1,200	
Placerville, S. D. No. 2, Dr. L. D. Marks	1,200	
Pacific Grove, Dr. O. S. Trimmer	1,200	
Plymouth and vic, Dr. W. A. Norman	1,200	

[illegible]

*Including towns of 1,000 population in which no deaths occurred.

JUNE, 1892.

Mortality reports from 109 cities, towns, villages, and sanitary districts, having an aggregate population of 788,073, show 121 deaths from all causes during June. This corresponds to a death rate of 1.29 per 1,000, or 15.48 per annum.

There were 136 deaths due to consumption, 58 to pneumonia, 24 to bronchitis, 5 to congestion of the lungs, 17 to diarrhoea and dysentery, 33 to cholera infantum, 63 to other diseases of the stomach and bowels, 22 to diphtheria, 7 to croup, 14 to scarlatina, 7 to measles, 5 to whooping-cough, 14 to typhoid fever, 3 to malarial fevers, 8 to cerebro-spinal fever, 1 to erysipelas, 34 to cancer, 89 to diseases of the heart, 6 to alcoholism, and 475 to other causes.

No deaths from la grippe were reported in June.

PREVAILING DISEASES.

Reports of prevailing diseases from 70 towns and sanitary districts outside of the large cities, show 23 cases of pneumonia, 77 of bronchitis, 6 of pleuritis, 6 of congestion of the lungs, 200 of diarrhoea, 57 of dysentery, 53 of cholera morbus, 32 of cholera infantum, 77 of inflammation of the bowels, 20 of diphtheria, 32 of scarlatina, 31 of measles, 15 of whooping-cough, 43 of la grippe, 24 of typhoid fever, 118 of malarial fevers, 6 of cerebro-spinal fever, 13 of erysipelas, 69 of rheumatism, 63 of neuralgia, and 72 of tonsillitis.

June was comparatively a healthy month. The death rate per 1,000 was 1.29, against 1.47 in 1891. There is shown an increase of diseases of the stomach and bowels, but that is expected in summer, when the fruit ripens. Cholera infantum is more frequently fatal during the warm weather.

Those diseases which increased the mortuary reports of the winter continue to abate. Smallpox is not reported at all. It is, however, reported epidemic at Victoria, B. C., and although Oregon and Washington lie between us and that point, it may very soon be necessary to place an Inspector at the northern boundary of the State to detain any persons showing symptoms of the disease.

Cholera, true to tradition, is following upon the heels of la grippe. It has leaped all boundaries between Asia and Europe, and is reported as devastating the famine-stricken districts of Russia. But with the rapid and easy methods of travel, cholera no longer moves at a man's pace. Like a winged messenger, it has arrived in the great capitals of Europe, and consultations are being held to decide what best may be done to stay its fatal spread. Common prudence would dictate that we look after our private and municipal sanitary affairs. It is just as well to expect no benefits from quarantine in cholera. It has never alone checked the progress of this disease. Cholera has always mocked at quarantine, but it has been repeatedly balked by want of filth and polluted soil to breed in and spread from. It is the duty of medical men to explain to the public that cholera is not contracted, like smallpox, measles, and scarlatina, but from swallowing the germs in water and food, or, after they have effected a lodgment in the throat, from a vitiated and poisoned atmosphere. We may not be visited at all, but the specter will be shorn of half its terrors when we have done all there is to be accomplished to hold it back.

Abstract of the Reports of Deaths and their Causes in California during June, 1894.

Other Causes	0	0	8	1	3	1	1	1	3	0	0	0	4	1	0	0	7	1	1	2	1	0	6	0	0	1	3	0	1	0	2	5	1	
Alcoholism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heart Diseases	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
Erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cancer	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cerebro - Spinal Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Remittent and Intermittent Fevers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Typhoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Typho - Malarial Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Whooping-Cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scarlet Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
Croup	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Diphtheria	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Other Diseases of St'mach & Bow'ls	0	0	2	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cholera Infantum	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
Diarrhoea and Dysentery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Congestion of the Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Bronchitis	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acute Pneumonia	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Consumption	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Total Deaths	0	0	18	2	6	1	1	1	4	7	1	1	1	0	1	0	1	1	1	2	1	0	0	0	0	0	0	0	0	0	4	7	1	4
Estimated Population	600	550	12,300	6,000	3,000	1,000	1,601	2,000	5,500	500	2,000	800	2,000	700	1,200	1,500	8,890	1,500	2,000	1,000	1,650	200	10,000	800	1,500	800	12,000	1,960	700	500	3,800	4,000	4,000	
LOCATIONS AND AUTHORITIES.	Alvarado, Dr. Albert Fouch.....	Alturas, Dr. John M. Forrest.....	Alameda, Dr. John T. McLean.....	Anaheim, Dr. J. H. Bullard.....	Antioch and vicinity, Dr. W. S. George.....	Anderson, Dr. J. T. Harris.....	Auburn, Dr. A. S. Waldo.....	Azusa and vicinity, Dr. J. H. Miller.....	Berkeley, Dr. F. H. Payne.....	Calico, Dr. A. R. Rhea.....	Calistoga, Dr. F. W. Mitchell.....	Carpenteria, Dr. R. Cauch.....	Colton and vicinity, Dr. M. F. Price.....	College City, Dr. C. H. Gibbons.....	Cottonwood and vic., Dr. J. O. Smith.....	Cloverdale, Dr. R. S. Markell.....	Chico and vicinity, Dr. William King.....	Davisville, Dr. W. E. Bates.....	Dixon, Dr. Ang. Trafton.....	Downieville and vic., Dr. Alemby Jump.....	El Monte and vicinity, Dr. R. D. Adams.....	Elk Grove, Dr. J. H. McKee.....	Eureka and vicinity, Dr. S. B. Foster.....	Elsinore, Dr. Thomas B. Ellis.....	Fort Bidwell and vic., Dr. Geo. Kober.....	Fresno Flats, Dr. J. N. McGowan.....	Fresno, Dr. W. T. Maupin.....	Folsom, John Harris, H. O.....	Galt, Dr. Alex. Montague.....	Gonzales, Dr. C. A. E. Hertel.....	Gridley, Dr. J. T. Harris.....	wards, Dr. G. E. Alexander.....	sburg and vic., Dr. N. B. Coffman.....	

ABSTRACT FOR JUNE, 1892—Continued.

LOCATIONS AND AUTHORITIES.																												
	Other Causes	Alcoholism	Heart Diseases	Erysipelas	Cancer	Cerebro - Spinal Fevers	Remittent and Intermittent Fevers	Typhoid Fever	Typho - Malarial Fever	Whooping-Cough	Smallpox	Measles	Scarlet Fever	Croup	Diphtheria	Other Diseases of St'mach & Bow'ls	Cholera Infantum	Diarrhoea and Dysentery	Congestion of the Lungs	Acute Bronchitis	Acute Pneumonia	Consumption	Total Deaths	Estimated Population				
Hollister, Dr. J. H. Tebbetts	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,000				
Ione and vicinity, Dr. A. L. Adams	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,800				
Jackson and vic, Dr. E. B. Robertson	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,600				
Knights Ferry, Dr. James H. Lowe	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	250				
Lockeford, Dr. E. N. Foote	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	400				
Long Beach and vic, Dr. J. W. Wood	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,000				
Livermore, Dr. E. M. Keys	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,475				
Lincoln, Dr. T. E. Hunt	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,000				
Laporte and vic, Dr. Orlando Pearson	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	800				
Lakeport, Dr. P. H. Thornton	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,100				
Los Gatos, Dr. F. W. Knowles	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,645				
Lodi and vicinity, Dr. E. A. Burchard	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,500				
Los Angeles, Dr. G. MacGowan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	50,384				
Marysville, Dr. D. Powell	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6,000				
Merced, Dr. E. S. O'Brien	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,069				
Millville and vicinity, Dr. J. N. Crabb	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	300				
Mariposa, Dr. W. J. Kearney	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,000				
Middletown, Dr. R. E. Hartley	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	800				
Madera, Dr. J. L. Burtin	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,500				
Monterey, David Roderick	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,200				
National City, Dr. J. W. Keene	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,200				
Nevada City, Dr. C. L. Muller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3,000				
Nicolaus, Dr. W. L. Short	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100				
North Bloomfield, Dr. Arthur du Millieu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	350				
Needles and vic, Dr. James P. Booth	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	750				
Oakland, Dr. J. F. H. Dunn	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	50,000				
Oakdale, Dr. R. H. Endicott	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,000				
Oroville, Dr. J. H. M. Karsner	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,000				
Ontario and vicinity, Dr. C. D. Watson	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,500				
Pasadena and vic, Dr. Henry H. Sherk	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10,000				
Petaluma, Dr. L. H. Patty	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4,500				
Placerville, S. D. No. 2, Dr. L. D. Marks	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3,000				
Paso Robles, Dr. C. C. Cleaves	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,000				

REPORT OF THE STATE BOARD OF HEALTH.

[illegible]

*Sierra Valley and vicinity, population 1,000, no deaths.

FINANCIAL STATEMENT.

STATEMENT OF THE EXPENSES OF THE STATE BOARD OF HEALTH FOR THE FORTY-SECOND FISCAL YEAR, ENDING JUNE 30, 1891.

Appropriation March 21, 1889.....		\$1,500 00
Balance from forty-first fiscal year.....		303 14
1890.		
July—Expressage.....	\$1 90	
Traveling expenses.....	25 00	
Traveling expenses, C. A. Ruggles.....	14 50	
Traveling expenses, J. M. Briceland.....	29 40	
Traveling expenses, H. S. Orme.....	50 00	
Postage stamps.....	20 00	
Telegrams.....	1 85	
Typewriter.....	100 00	
Office rent.....	25 00	
Aug.—Expressage.....	55	
Telegraphing.....	95	
Traveling expenses.....	20 00	
Postage stamps.....	15 00	
Stationery.....	2 55	
Wood engraving for report.....	20 00	
Office rent.....	25 00	
Sept.—Carpet sweeper for office.....	3 50	
Duster.....	50	
Postage stamps.....	15 50	
Stationery.....	9 10	
Telegraphing.....	2 10	
Post Office box rent.....	2 00	
Subscription "Annual of Hygiene".....	14 50	
Office rent.....	25 00	
Oct.—Typewriter cabinet.....	13 30	
S. S. Herrick, compiling laws.....	75 00	
Expressage.....	40	
Traveling expenses, Secretary.....	32 50	
Traveling expenses, J. M. Briceland.....	40 50	
Traveling expenses, C. A. Ruggles.....	51 90	
Traveling expenses, H. S. Orme.....	67 75	
Office rent.....	25 00	
Telegraphing.....	9 39	
Nov.—Stamps.....	10 00	
Hopkins.....	1 00	
Stamps.....	22 00	
Wrappers.....	5 00	
Expressage on Biennial Report.....	40 95	
Freight on Biennial Report.....	1 00	
Expressage on Biennial Report.....	12 80	
Stamps.....	47 00	
Telegraphing.....	40	
Stationery.....	2 95	
Office rent.....	25 00	
Crocker & Co.....	8 00	
Stamps.....	23 00	
Traveling expenses.....	15 00	
Expressage.....	1 75	
Stamps.....	12 00	
Traveling expenses.....	15 00	
H. S. Crocker & Co., envelopes.....	13 30	
Traveling expenses.....	15 00	
Traveling expenses, C. A. Ruggles.....	17 00	
Telegraphing.....	2 15	
Post Office box rent.....	2 00	
Office rent.....	25 00	

1891.			
Jan.	C. S. Houghton	40	
	H. S. Crocker, stationery	3 15	
	Stamps	4 00	
	"Sanitary News"	2 00	
	Traveling expenses, C. A. Ruggles	12 90	
	Traveling expenses, J. M. Briceland	27 00	
	Traveling expenses, H. S. Orme	47 00	
	"Sanitary Record"	3 02	
	"Sanitarian"	4 00	
	Stamps	15 00	
	Expressage	1 15	
	Telegraphing	75	
	Office rent	25 00	
Feb.	Telegraphing	54	
	Office rent	25 00	
March	A. P. H. Association, subscription	5 00	
	Postage	10 00	
	Expressage	3 80	
	Engraving stamps	2 50	
	Traveling expenses, C. A. Ruggles	9 15	
	Post Office box rent	2 00	
	Telegrams	3 00	
	Postal cards	10 00	
	Office rent	25 00	
April	Postal cards	5 00	
	Stationery	3 55	
	Traveling expenses, J. M. Briceland	27 50	
	Traveling expenses, C. A. Ruggles	12 40	
	Traveling expenses, R. B. Cole	15 00	
	Traveling expenses, H. S. Orme	51 75	
	Office rent	25 00	
	Traveling expenses, C. A. Ruggles	3 50	
	Traveling expenses, C. W. Nutting	48 10	
	Traveling expenses, W. G. Cochran	54 00	
	Traveling expenses, P. C. Remondino	65 00	
May	N. Eldred, hauling furniture, etc.	5 00	
	H. Williams, packing books	2 50	
	Postage stamps	14 00	
	Official census	2 50	
	Expressage	85	
	Office rent	25 00	
June	Postage stamps	5 00	
	Postage stamps	15 00	
	Expressage	3 70	
	Office rent	25 00	
	Three book cases	26 00	
	Total	\$1,733 65	
	Balance	69 49	
	Total	\$1,803 14	\$1,803 14

STATEMENT OF THE EXPENSES OF THE STATE BOARD OF HEALTH FOR THE FORTY-THIRD
FISCAL YEAR, ENDING JUNE 30, 1892.

Appropriation April 6, 1891		\$1,500 00
July	Traveling expenses of C. A. Ruggles	\$14 40
	Traveling expenses of W. G. Cochran	50 50
	Office rent	25 00
	Overhauling books	2 50
	Stationery, etc.	3 25
	Postage stamps	15 00
	Expressage	2 85
August	Office rent	25 00
	Postage stamps	10 00
	Expressage	2 25
	Telegraphing	1 65
	Western Union Telegraph Co.	5 43
Sept.	Office rent	25 00
	Stamps	10 00
	Expressage	50
	Traveling expenses, J. R. Laine	10 60

October—	Traveling expenses, W. G. Cochran.....	91 60		
	Traveling expenses, C. W. Nutting.....	88 45		
	Traveling expenses, C. A. Ruggles.....	55 05		
	Traveling expenses, J. R. Laine.....	46 85		
	Office rent.....	25 00		
	Postage stamps.....	10 00		
	Postal cards.....	10 00		
	Expressage.....	1 20		
	For typewriting.....	5 00		
Nov.—	Office rent.....	25 00		
	Postage.....	40 00		
	Expressage.....	40		
	Telegrams.....	1 64		
	Glazing.....	75		
	Stationery.....	3 50		
Dec.—	Office rent.....	25 00		
	Postage.....	20 00		
	Expressage.....	50		
1892.				
Jan.—	Expressage.....	1 05		
	Traveling expenses, W. G. Cochran.....	50 50		
	Traveling expenses, C. A. Ruggles.....	14 40		
	Stamps.....	20 00		
	Office rent.....	25 00		
Feb.—	Office rent.....	25 00		
	Postage.....	25 00		
	Subscription "Sanitarian".....	4 05		
	Subscription "Sanitary Record".....	2 60		
	Telegrams.....	35		
	Expressage.....	1 75		
March—	Office rent.....	25 00		
	Postage.....	25 00		
	Expressage.....	50		
April—	Office rent.....	25 00		
	Postage.....	40 00		
	Expressage.....	30		
	Telegraphing.....	40		
	Traveling expenses, C. A. Ruggles.....	33 90		
	Traveling expenses, P. C. Remondino.....	70 00		
	Traveling expenses, W. G. Cochran.....	55 50		
	Traveling expenses, C. W. Nutting.....	53 40		
	Traveling expenses, J. R. Laine.....	24 00		
May—	Traveling expenses, J. R. Laine.....	44 45		
	Traveling expenses, W. G. Cochran.....	5 45		
	Traveling expenses, P. C. Remondino.....	28 00		
	Traveling expenses, C. A. Ruggles.....	70 20		
	Office rent for May.....	25 00		
	Postage.....	40 00		
	Postal cards.....	45 00		
June—	Office rent.....	25 00		
	Postage stamps.....	10 00		
	Statutes, 1891.....	2 50		
	H. S. Crocker, Codes and scales.....	19 00		
	Total.....	\$1,491 17		
	Balance.....	8 83		
	Total.....	\$1,500 00	\$1,500 00	

EXPENSES OF THE STATE BOARD OF HEALTH ON ACCOUNT OF CONTAGIOUS AND INFECTIOUS DISEASES FOR THE FORTY-SECOND AND FORTY-THIRD FISCAL YEARS.

1890.				
July 1—	Unexpended balance in appropriation.....		\$5,982 45	
1892.				
April 12—	Traveling expenses, P. C. Remondino.....	\$250 00		
	Balance.....	5,732 45		
	Total.....	\$5,982 45	\$5,982 45	

THESE ARE THE RESULTS OF THE INVESTIGATION

who has died of diphtheria is extremely dangerous.

14

Oc

Total \$5,982 45 \$5,982 45

Cholera
 Cholera
 Diarrhoea
 Smallpox
 Measles
 Scarletina
 Diphtheria
 Croup
 Influenza
 Whooping
 Erysipelas
 Fevers

Syphilis
 Alcohol
 Hydrocephalus
 Tuberculosis
 Phthisis
 Marasmus
 Scrophulous
 Rheumatism
 Cancer
 Pneumonia
 Pleurisy
 Bronchitis
 Lungs, &
 Other diseases
 Enteritis
 Gastritis
 Gastro-
 Entero-
 Peritonitis
 Diseases
 Other diseases
 Bright's
 Aneurysm
 Heart diseases
 Convulsions
 Other diseases
 Puerperal
 Old age
 Suicide
 Heat, &
 All other
 Stillborn

Total

who has died of diphtheria is extremely dangerous.

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PREVENTIVE DISEASE CIRCULARS.

DIPHTHERIA; ITS RESTRICTION AND PREVENTION.

USEFUL INFORMATION PUBLISHED FOR GENERAL DISTRIBUTION.

[CIRCULAR No. 1.]

Diphtheria is so frequently malignant and fatal in its effects that the State Board of Health, in the exercise of its functions in the restriction and prevention of disease, deems it necessary to furnish the public with information with reference to the manner of its propagation, coupled with such suggestions concerning the best known methods of limiting its progress as any person of average intelligence may easily put to practical use.

It should be generally understood that diphtheria is a contagious and infectious disease, which attacks by preference the young, and especially those whose vital resistance has been reduced by exposure to filth, uncleanness, the emanations from sewers, drains, and all unsanitary influences.

HOW DIPHTHERIA IS CONTRACTED.

The infectious substance of diphtheria is conveyed from the mouth, nose, air passages, and discharges from the bowels of those who have the disease. It is believed, with some reason, that the perspiration and urine may contain it. Domestic animals, such as cats, dogs, chickens, and tame pigeons are credited with carrying the disease from one person to another, either by having the disease themselves, or because of having been handled by persons who were afflicted with it. It may be transmitted in water, milk, or other liquids, or in food or clothing, or by kissing a person who has a sore throat, without suspicion that it is diphtheria.

The secretions of the mouth and nose of a diphtheritic patient, mixed, as they must necessarily be, with the exudative deposit, are often allowed to fall upon the bedclothes and carpets, where they dry and remain for an indefinite length of time. These are liable to be detached by the friction of the fabric, or the shuffling of feet upon the floor, when the poison rises as dust in fine particles, and lodges in throat, nose, windpipe, or stomach of the person who may respire the air so contaminated.

Some persons have so much vital resistance to disease that it does not take root and develop. Others, however, have the susceptibility to its growth and fatal effects.

It should be remembered that a malignant form of the disease may be contracted from a person having it in a very mild form.

Exposure to an atmosphere contaminated by the body of a person who has died of diphtheria is extremely dangerous.

RULES AND PRECAUTIONS TO BE OBSERVED BY ALL WHO COME IN CONTACT
WITH DIPHThERIA.

1. Whenever diphtheria is known to be in the neighborhood, all children with sore throats should be kept apart from other children until a competent physician has determined that the sore throat is not diphtheria.

2. A person with diphtheria should be placed in a room in the upper story of the house, if convenient, as remote as possible from direct communication with others, and access should be denied to all but the necessary attendants. All superfluous furniture, including carpets, curtains, clothing, and books, should be removed from the apartment. There should be free ventilation without drafts.

3. A card with DIPHTHERIA printed in large type should be placed in a conspicuous position on the house, and no child should be allowed to enter.

4. No food or drink that has been exposed to the atmosphere of the sick-room should be used by well persons, and the dishes used in the sick-room should be washed separately.

5. Neither the bedclothes nor the patient's body linen should be mixed with other soiled clothes or admitted to the general wash until they are first disinfected.

6. No person recently recovered from diphtheria should attend school, church, or other public assemblies, until declared by a competent physician to be no longer capable of transmitting the contagion.

7. Under no circumstances should a public funeral be held of a person dead of diphtheria. Neither must children be permitted to attend. Upon this point health officials cannot be too firm and unyielding. All personal considerations and sentiment must be subordinated to considerations of public safety.

The importance of this course should be explained by the medical profession to clergymen of all denominations, and their influence and coöperation earnestly solicited, in order that the objections and prejudices of the careless and uninformed may be more easily overcome.

DISINFECTION.

As the discharges from the nose and throat are highly contagious, they should be received on cloths, which should be immediately burned. The urine, vomited matter, and discharges from the bowels should be received in a vessel containing a solution of chloride of lime in the proportion of six or eight or more tablespoonfuls in a gallon of soft water. They should be allowed to remain in this solution at least fifteen minutes before being deposited in a privy vault or water-closet.

DISINFECTION OF CLOTHING AND PREMISES.

The soiled linen, clothing, and towels should, if possible, be boiled in hot water for thirty minutes before leaving the room; but if this be inconvenient, a solution of sulphate of zinc (white vitriol) should be made by dissolving half a pound of the zinc with six tablespoonfuls of common table salt in a gallon of water, in which the clothes should be soaked two hours before being washed.

Some physicians may recommend solutions of sulphate of iron (green copperas) instead of a solution of chloride of lime, and a solution of corrosive sublimate or carbolic acid instead of sulphate of zinc.

It has been demonstrated, however, that copperas is not properly a *disinfectant*. It is an excellent antiseptic, arresting putrefactive decomposition, but it does not destroy the vitality of disease germs or the infecting power of materials containing them.

Corrosive sublimate solutions are poisonous, and when used should be kept in earthen, glass, or wooden vessels, and should invariably be labeled Poison.

Carbolic acid is also poisonous, and, like chloride of lime, is sometimes objectionable on account of its odor.

The chloride of lime solution for the secretions and dejections of the body, and the zinc solution for the clothes and linen, will, perhaps, be the most economical and easily obtained for general use, and will prove sufficient and satisfactory. The use of any of these agents must be determined by the attending physician.

The attendants should observe scrupulous cleanliness of hands and clothing. They should not appear in public until after having first changed their clothes and otherwise removed all possibility of carrying the contagion.

In case of death, let the body be wrapped in a sheet which has been soaked in the zinc solution, and incased in a tight coffin. The interment should be private, and in no case should the remains be exposed to view.

The room which has been occupied by the sick should, after death or recovery, be effectively disinfected.

Articles which cannot be washed or boiled should be exposed to dry heat at a temperature of 230° Fahrenheit for three or four hours, the articles being freely exposed and not folded or piled up. Otherwise, the room and its contents must be fumigated by the fumes of burning sulphur.

FUMIGATION WITH SULPHUR is performed by first closing doors and windows and all apertures through which the gas might escape. Then the floors, walls, and furniture must be thoroughly dampened. For a room ten feet square, three pounds of sulphur, in fragments, are placed in an iron pan supported by bricks placed in a tub containing a few inches of water. The sulphur is then moistened with alcohol and set on fire. When well ignited, shut the door and keep the room tightly closed several hours. When sufficiently fumigated, open the room freely to the air until thoroughly ventilated, when it will again be fit for occupancy.

In addition to these precautions the cellars, privies, water-closets, cess-pools, drains, sewers, and all other probable sources of filth, should be cleansed and treated to a solution of copperas. Stagnant water should be drained. Let the sunshine into the rooms of the houses, and remember that pure water, pure air, and sunshine are the greatest natural preventives of contagious diseases.

These, in short, are the rules most generally adopted in the restriction of this destroyer of the young. They are as briefly stated as may be consistent with clearness, for there must be a comprehension of their scope and purport in order to exercise that influence and good which is the object to be attained.

Much more might be added, but this would lead to the consideration of medical subjects not deemed essential in directions for the guidance of the general public.

For information concerning the treatment of diphtheria it is necessary to look to the attending physician. He should supply you with this or some other pamphlet containing like information, which few busy practitioners have the leisure to verbally explain, and which few persons would be likely to remember.

The foregoing methods, modified by the attending physician to meet the exigency of the case, may be employed in all contagious diseases.

In order to effect the good which it is intended this pamphlet should accomplish, it should be given a wide distribution. It should either be preserved for possible future use, or should be sent to friends and neighbors who have need of such information in their distress.

Copies may be procured for free distribution by applying to the Secretary of the State Board of Health, Sacramento.

By order of the State Board of Health.

THE DANGERS ARISING FROM PUBLIC FUNERALS OF THOSE WHO HAVE DIED FROM CONTAGIOUS AND INFECTIOUS DISEASES.

Addressed to the Clerical Profession.

[CIRCULAR No. 2.]

The State Board of Health of California, realizing fully the benign influence of the reverend clergy of the State, and having a high appreciation of their functions as leaders and teachers of the people, would especially invoke their influence and coöperation in the instruction of the public in the principles of health and its preservation. Because of their general intelligence and widespread professional influence, they can exert greater *personal* influence than any other class or profession. Their visits are always missions of consolation and mercy. Unlike other professions, these duties are performed without fee or reward. There is thus engendered a confidential reverence for those so forgetful of self as to be ready at any and all times to speak words of hope, courage, and trust, when light has departed from the household and despair sits perched upon the family altar.

It may be superfluous to call the attention of so intelligent a class of men to a subject on which nearly all may have formed well-defined opinions; but having in mind the closeness of the pastoral relation to human life, the social standing of families, and the reciprocal feeling among friends and neighbors, it is deemed necessary to reinforce their convictions of what it is proper to do, by the conversion of such convictions into custom and law.

The Board, therefore, respectfully asks the attention of ministers of all denominations and of every order to the practice of holding public funerals of persons who have died of contagious or infectious diseases. In many cities and towns there exists a municipal regulation or ordinance prohibiting a public or church funeral of any person who has died of Asiatic cholera, smallpox, typhus fever, diphtheria, yellow fever, scarlet fever, or measles, and directing the family of deceased to limit the attendance to as few as possible, and to take all precautions to pre-

vent the exposure of other persons to contagion or infection. The person authorizing the public notice of death is also required to publish the name of the disease which caused the death of the person whose funeral is to be held. Where such local regulations are in force the clergy are relieved from the painful duty of refusal to perform such services.

Many amiable and otherwise well-informed people will importune the minister to officiate at a public funeral of a precious child that has died of diphtheria or scarlet fever. They cannot or will not understand that a compliance with the request endangers not only the lives of those present, but the lives also of the children of the kind pastor, who would not inflict pain by refusing, and of the children of sorrowing friends who inspect the remains in the casket, and follow them to the grave. It is to prevent such consequences that the suggestion is made that those of the clergy who live in cities and towns should so use their influence with the municipal authorities as to induce them to adopt an ordinance restraining any one from officiating at a public funeral in case of death from contagious diseases.

It is believed that considerations of personal and public safety need not be urged in support of the vital necessity of such action when addressing the clerical profession. If it were necessary to cite authorities to convince them that contagious diseases may be communicated by exhalations from the bodies of the dead, as well as by contact with living persons afflicted with the disease, they could be furnished without number. This would be the universal testimony of medical men. But it is considered unnecessary to furnish and multiply instances of infection and fatal results arising from public funerals in the case of contagious diseases. The principal thing is to refuse to hold such public services, no matter what the social standing of the family of deceased may be. Objections may arise to what at first may appear to be an extreme course. There is planted deep in the human heart a desire to honor the dead, and there are unfortunately many who think this can best be shown by a public funeral. They believe that to neglect public funeral rites is to manifest a lack of proper regard for the memory of the dead.

At this moment, when an atmosphere of sorrow and gloom pervades the home, considerations of safety for the living are apt to be received with indifference and contempt. Whatever is said to the bereaved relatives at such a time, must be spoken with the utmost gentleness. But they must be instructed as to the duty of subordinating their wish to honor the dead, to the duty of preserving the health and lives of the living. It is believed that most persons will yield in this matter if properly advised. But if any are unreasonable, and insist upon public funeral rites with an apparent disregard for the safety of others, the police power of the municipality or the State should be invoked to teach such persons that it is a high moral duty to forego their preference, and to subordinate their individual desires that the welfare of the community may be conserved. Fortunately, in California, sanitary legislation has been such as to invest cities, towns, and sanitary districts with all the powers needed for the protection of their respective localities. But as all know, such laws depend in a great measure upon public opinion for their enforcement. The sentiment of the community must be taken into account, and as the affairs of funerals have been almost entirely delegated to the church, ministers of the gospel stand in a position to

explain to the people how it is possible to manifest proper and fitting respect for the dead without disregard for, and danger to, the living. Not only should it be explained that it may be contrary to law, but that it is also thoughtless and selfish for the members of one family to insist that persons from many other homes shall be subjected to the danger of infection, in order that a public funeral service may be held over the unconscious remains of one who can neither be benefited by it nor injured by its omission. The clerical and medical professions agree on all important questions relating to the preservation of human life and the betterment of humanity. It is certainly desirable that the two professions that have to deal with the hopes and fears, the joys and sorrows, the life and death of mankind, as an inseparable function of their office, should enjoy each other's confidence and earnest coöperation in any measure calculated to ameliorate the condition of the human race.

It is sincerely hoped that the sentiments herein contained will meet the approval of those to whom this is addressed.

By order of the State Board of Health.

THE DANGERS ARISING FROM TAKING OFF THE HAT OUT OF DOORS DURING FUNERAL SERVICES.

Addressed to the Clerical Profession and Officers of Secret, Fraternal, and Beneficiary Societies of California.

[CIRCULAR No. 3.]

The frequency of reported cases of severe illness, and sometimes death, traceable to the removal of the hat at funerals, has determined the California State Board of Health to address the reverend clergy and the officers of secret, fraternal, and beneficiary societies throughout the State, respectfully directing their attention to the serious consequences which not infrequently follow the observance of the custom during the prevalence of inclement weather or under the rays of a hot summer sun.

The hat is used as a covering for the head. In an infinite variety of shapes and patterns the hat or cap has been worn from times of remote antiquity. In its various forms it has been known under different names, and adopted by some nations as a symbol. The most ancient form is the cap, such as is seen in figures representing the goddess of liberty. The Grecian *pileus* was a woollen cap sometimes worn as a lining to the helmet. The aged and infirm Romans wore caps of the same material for warmth. When conical, the cap was the *apex* of the Roman priests, worn probably from the time of Numa. With the elevated crest pointed forward, like the liberty cap, it was the Phrygian or Mysian bonnet. With a brim it became the *petasus*, a hat much like the round felt hats now worn. Among the Romans the cap was a symbol of liberty, and slaves were presented with one on receiving their freedom. In modern times it has been a conspicuous article of dress, and has been adorned with showy plumes, jewels, and rosettes. It has also been worn as a mark of authority, and its shape and ornamentation have frequently made it an insignia of rank and station. Its form, and sometimes its color, has been made to designate the rank and character of its wearer, as the monarch, by his crown; the cardinal, by his red hat, betokening his readiness to spill his blood for the sake of the

Savior; and the court fool, with his cap and a bell. In one form it serves to distinguish the military officer, and in another the peaceful Quaker. The wearing of a hat as an article of apparel is an almost universal custom. There must underlie the wearing of a covering for the head a deeper significance than a mere conformity with the prevailing fashion.

The spectacle of an adult person walking the streets or country roads, or laboring in the open air, without wearing a hat, would excite comment everywhere. Doubts of the mental soundness of the person would be freely expressed. The custom of hat wearing arose from necessity. Every one will acknowledge the warmth and comfort of a fur or woolen cap or hat in cold and stormy weather. The fashion of wearing the hair short increases the need of an artificial protection to the head, while to those who are bald it is indispensable to the preservation of good bodily health. Nurses often find it necessary to put a flannel bonnet on the heads of young infants before they can be cured of cold in the head and nostrils. A foundation for chronic nasal catarrh is one of the results of repeated colds during infant and child life.

Not one man in a thousand goes out of doors ten minutes of the day without taking the precaution to put on a hat. Experience has taught him that a neglect to do so may bring on a fit of sneezing, a watery suffusion of the eyes, a sore throat, headache, earache, neuralgia, toothache, and symptoms of a cold, with fever, a cough, and perhaps, pneumonia. So fully is this recognized in Europe that the custom of saluting ladies and friends by lifting the hat has been of late years greatly superseded by the wave of the hand, or half military salute.

Since the prevalence of la grippe, the risk of out-door exposure has multiplied. Many cases of severe illness, and not a few deaths have been noted from this cause. The most common occasions of danger have been during attendance on funerals, either as pall-bearers or mourners. In well-conducted funerals undertakers nowadays frequently furnish skull caps to be worn by pall-bearers. The skull cap, although it has no visor to protect the eyes, is nevertheless an efficient covering, does not offend our sensibilities, and implies no want of respect for the dead. The minister and the mourners may also be furnished with skull caps. There need be no discrimination in favor of the pall-bearers. But all reflecting persons will agree that it requires a stretch of the imagination to detect the difference in the effect between the wearing of an ordinary hat and the wearing of a skull cap on such occasions. Baring the head at funerals is a mere convention that serves no useful ceremonious purpose. Wearing a skull cap is no compromise; it is a surrender. The custom of taking off the hat in wet or cold and stormy weather while the remains are carried from the home to the hearse, or from the hearse to the chapel or lodge-room, and again when the last sad rites are performed at the grave, is fraught with danger. Ten, fifteen, and twenty minutes are not infrequently consumed, during which pall-bearers and mourners remain uncovered, while a chill wind, laden with damp, diminishes the vital resistance of the weak, and lays the foundation for a decline. The recently sick, the aged and infirm, and those who have lost the hair of the head, are in the greatest danger. But none are exempt. There are but few who, in the absence of suggestion, will defy the almost universal custom of Christian nations to uncover in the presence of the dead. Their sentiments of love, honor, and respect for the dead impel them to disregard the danger

involved by the exposure, notwithstanding a full comprehension of its evil import.

It is on such occasions that the intelligent and masterful influence of the ministry and chief officers of lodges and societies having the burial in charge may be exercised in the beneficent advice to remain covered, and avoid discomfort and danger. This can be done with neither injury nor disrespect to the dead, but with great kindness and benefit to the living. Speaking with authority, and themselves setting the example by remaining covered, they administer comfort, relief, and protection, and with certainty lessen apprehension for the results of the necessary exposure incidental to the interment.

A desire to live to a fullness of years is instinctive in all men. It is believed that the pursuance of the course herein indicated will not only be the means of preventing much sickness, but may be the means of preserving many useful lives. That the efforts to prevent disease shall at least equal, if it does not exceed, the art of cure, is one of the possible triumphs of modern civilization.

By order of the State Board of Health.

REPORT OF STATE ANALYST.

The Act creating the office of State Analyst, and defining his duties, was intended to provide a way for accomplishing the following ends :

I. An official analysis (made with the greatest care) of the mineral waters of this State.

II. A most careful investigation of the drinking waters of the State, as supplied to the larger towns and cities, and to its public institutions.

III. An examination of the food products of the State, including milk and ordinary foods.

IV. An examination of drugs, medicines, etc., for strength and purity.

V. An examination of the wines produced in the State and others offered for sale in the State, and to do such other work as the State Board of Viticulture may desire.

VI. To examine such ores, minerals, etc., as the Mining Bureau may desire.

And finally, the State Analyst was made the Chemist of the State, subject to the call of several of its important Boards, either for information, advice, or chemical analysis.

The Boards specifically mentioned were the State Board of Health, the State Board of Viticultural Commissioners, and the State Mining Bureau, to which might with propriety be added the State Board of Horticulture.

If the office of State Analyst was supported and maintained as the Organic Act contemplated, the State Board of Health would find its field for usefulness very much enlarged.

No argument need be offered in support of the regular official examination of drinking waters of the State. It is known to every person that there is no other channel through which so many disease germs enter the body. Contaminated drinking water carries disease and death to unsuspecting and helpless persons. The weak, the young, the invalid, the convalescent are the first to suffer from its concealed poison. The water may be clear and palatable, and have all the appearance of purity, and yet be injurious to health. The individual is entirely powerless to avert its evil effects. It is clearly the duty of the State to protect him in his health, and against the insidious attacks of unseen foes.

This work is being begun in a more or less efficient manner in other States. I shall make special mention of Massachusetts, because this State has inaugurated a system of good inspection, and carefully carried it into operation. The Legislature of that State has appropriated annually, for a score of years, \$5,000 to the State Board of Health, for the examination of the milk, food, and water supply, etc., of the State.

That State has done more than this. It has, within the last five years, expended \$100,000 in the special investigation of the water supply of the State. The improved sanitary condition of the State is the return for this expenditure. Massachusetts is not a State given to lavish

expenditure without reason, yet intelligent enough to know a good investment. The milk supply was improved in quality almost immediately upon the passage of the law creating and providing for a milk inspection. Year by year the reports of the Board of Health show continued improvement. There are fewer cases of suspected adulteration, and the analysis shows a smaller and smaller amount of adulteration in the samples examined. The legislation already enacted in this State makes it easy to inaugurate such a food inspection as is maintained in Massachusetts.

It is generally admitted that California has within its borders a large number and a large variety of mineral springs. These are located in wild, out-of-the-way places, and no development of these springs is possible until an analysis has demonstrated their value. The mineral springs of Germany were first examined at the State's expense, and a fund is set aside for the analysis of mineral waters within the limits of the State. Our own people visit the mineral springs of other countries, and spend large sums of money abroad, when, beyond all question, we have equally curative waters at home. For every dollar spent in this investigation of the mineral springs of the State a hundred dollars would be saved. If, added to the attractions of climate, we offer the proofs of the great value of our mineral waters, then we would attract many health-seekers who are not drawn here by climate alone. California can become the great sanitarium of the world. Too much cannot be said of the importance of the work placed upon the State Analyst. Experience has shown that nowhere can food inspection be made efficient if the State does not provide for a free analysis, and also for a systematic inspection of the same, and collection of samples.

The University of California has constructed a large, convenient, and well-equipped chemical laboratory. Provision has been made in it for the work that would fall to the State Analyst, so that it would be very easy for the State to take up this work and carry it forward with efficiency. The additional burden upon the State would not be felt. No man, woman, or child in the State, no taxpayer, would ever know or feel that this work was a burden to him. On the other hand, thousands upon thousands of the common people would be benefited by protection from disease germs, whether conveyed in water, milk, or other substances.

In view of the importance of the work to be done for the people of the State, and also in view of the small cost to the State, it is hoped that the incoming Legislature will see its way to make provision for the maintenance of the office of State Analyst.

Respectfully submitted.

W. B. RISING,
State Analyst.

RECOMMENDATION MADE BY THE STATE BOARD OF HEALTH.

The foregoing report of the State Analyst was received after the Biennial Report of the State Board of Health had been sent to the State Printer, which prevented the making of a recommendation with reference to an appropriation sufficient to meet his requirements.

The Secretary has on several occasions forwarded to Berkeley samples of water and other substances received from different parts of the State, to be analyzed and reported upon. The receipt of the packages was in every instance acknowledged by the courteous State Analyst, with the statement that it would be impracticable for him to comply with the request, inasmuch as his duties would not permit him to do it personally, and, further, that the State had made no provision for the employment of assistants. This has rendered the office of the State Analyst, so far as the State Board of Health is concerned, a nullity.

The law directs that the State Analyst shall make analyses of waters and substances sent to him by the State Board of Health, but, as it seems, no appropriation has been made wherewith it could be done. It is certainly necessary that the office of the State Analyst shall be something more than a name; and it may be necessary, in case cholera should reach our State during the next summer, to utilize the well-equipped chemical laboratory of the State University, by submitting to the State Analyst the contents of human viscera of persons suspected of having died of cholera, or of poisons administered with criminal intent during the prevalence of cholera.

This, in addition to the considerations embodied in his report, should be sufficient to show the necessity of an appropriation sufficient to meet the requirements of the State Analyst.

For this purpose, the State Board of Health would respectfully recommend that the Legislature shall appropriate \$1,500 per year for the next two years.

DIPHTHERIA; ITS COMMUNICABILITY AND PREVENTION.

By C. A. RUGGLES, M.D.

An experience of many years in sanitary matters has brought me, reluctantly, to the conclusion that great ignorance pervades the public mind regarding the origin, communicability, and prevention of disease. The existence of that ignorance is almost inexcusable, for it is plainly the duty of State and local Boards of Health to so instruct the people, so educate the public mind, that it can duly and clearly appreciate the great blessing of health and how to preserve it. In consideration of the above-stated condition, I have thought proper to present for public thought a few practical points in relation to diphtheria, which has for the past year been unusually prevalent in many parts of the State. Microscopic investigation has demonstrated beyond a reasonable doubt, that the pathognomonic feature of diphtheria, invariably present, is the specific micro-organism known as the *Kleb-Loeffler bacillus*.

The researches of *Kleb*, *Loeffler*, and others have abundantly proved that this bacillus is the causative agent of diphtheria, and that it produces, at the point of infection, a chemical poison whose absorption into the circulation gives rise to important symptoms. The mind of the profession has been much disturbed by the difference of opinion as to whether this disease is local or constitutional. It is at the present time almost, if not quite, universally admitted that it is, at its very outset, entirely local, and the sooner medical men come to that conclusion, and instruct their patrons as to that fact, and the sooner the disease is discovered and proper treatment applied, the better will be the prospect of saving the unfortunate patient. Though particular or specific plans of treatment are not the object of this article, yet all treatment should be based upon this one fundamental fact, that diphtheria is a local, specific disease, due to the presence and action of bacilli, characterized by a deposit of pseudo-membrane at the site of infection, accompanied by constitutional disturbances and followed by nervous symptoms due to the absorption into the circulation of a virulent agent, *tox-albumin*, which is produced by the local development of the bacilli. To treat diphtheria understandingly and successfully, the medical attendant must be prepared to admit that the disease is local, and the treatment should be of a local-topical character at first, for, according to the best authorities on this subject, the bacilli develop only locally at the site of infection, and are found in the pseudo-membrane only, mostly on the surface, not even in the subjacent mucous membrane. They do not invade the tissues or circulation, but generate at the point of infection this highly poisonous substance, the absorption of which produces the constitutional disturbance. If these views respecting the nature of this disease are correct, and the consensus of medical opinion is that they are, it seems as if vigorous local treatment is indicated to destroy the bacilli and prevent as far as possible the formation and absorption of

the tox-albumin. This plan of procedure is mentioned simply to forcibly impress on the public mind the great necessity of early application of treatment. When it is fully understood that the pathological element of this disease is the bacillus in the exudation, it will be readily conceded that it is communicable; that it is highly contagious, equally so as smallpox, and much more fatal in its results, as mortuary statistics show that there are ten times as many deaths from diphtheria as from smallpox. We can control smallpox by vaccination, which we cannot do with diphtheria. When the people will consent to be quarantined, and as cheerfully isolate and guard against it as against smallpox, then much will have been gained towards its prevention.

The contagiousness or communicability of this disease is now almost universally conceded by all medical men; possibly excepting a very few of questionable respectability, whose advice and counsel have done much to hinder and obstruct the efforts of Health Officers to control it, by destroying that confidence that should always exist between the people and sanitary authorities. If it is not contagious, then, they say all efforts to suppress it are unnecessarily rigid and arbitrary. One more point that I wish to forcibly impress on the public mind: That is that for sanitary purposes, at least, diphtheria and membranous croup are identical. Innumerable instances could be cited where croup diagnosed as such, treated as such, and tracheotomy performed for its relief, has given to children exposed to it, unmistakable diphtheria. My opinion is that physicians should be obliged to report their cases of croup to the local health authorities in the same manner as any other contagious disease. The public should be instructed up to the knowledge of the necessity of being just as careful in the management of a slight case as of one more severe, as it is possible for a very bad case to arise from a very mild one. Diphtheria attacks all ages. It exempts neither the nursing babe nor the adult. It appears more disposed to attack scrofulous children and those with large prominent tonsils and enlarged cervical glands, as they offer a larger field for the lodgment of the bacillus. It having been clearly demonstrated by microscopical research that the pathological feature of this disease is the Kleb-Loeffler bacillus, and that it develops locally only at the point of infection, it would seem our duty to tell parents to early and carefully examine the throats of their little ones, and if an unusual redness of the tonsils and pharynx be found, which may soon be followed by the development of a thin yellowish membrane or exudation, it is very good practice to resort thus early to medical treatment. Call your family physician early, believing that by attacking the disease thus in its early stage with the proper germicides before the generation at the point of entrance of the highly poisonous substance, the absorption of which produces the constitutional symptoms, much will be gained.

The suspicions of the parents having been verified by the medical attendant and the Health Officer, the most important duty of the sanitary department commences in using every known means of prevention. The strict quarantining of the whole family, children and adults, is in my opinion the only successful measure to stamp it out. In every community are people ignorant about sanitary and hygienic measures, who are not willing to undergo any individual inconvenience for the sake of improving their sanitary condition and lessen sickness and death among them. Where the welfare of the community is at stake,

individual hardships should not be considered, and the cry of violation of individual rights should not be heeded. Why should diphtheria not be as strictly quarantined as smallpox? It is in many instances difficult to carry out strict quarantine, but a Health Officer who, as a celebrated sanitarian aptly remarked, is not afraid to be cursed and sworn at daily by his profane neighbor, can, with the aid of the proper authorities, accomplish it easily enough. After proper external quarantine measures have been instituted to protect the community, we should put in force regulations for the better protection of those confined in the house with the sick one. There is no question as to the contagiousness of this disease, and it can safely be laid down as a sanitary axiom that whatever is communicable is preventable. Now, our whole aim and purpose should be to prevent it spreading. The one thing important and absolutely necessary to accomplish that end is complete and thorough isolation. A large, airy room should be selected, preferably at the top of the house and on the sunny side. An open fireplace is an advantage to perfect ventilation. Carpets, curtains, mats, and ornaments, in fact all unnecessary furniture, should be removed. A special attendant should be selected, and none other should be allowed in the sick-room. Dishes, towels, clothing, bedding, and utensils used in the room should remain there, and not be allowed to enter any other part of the house. Clothing of the cheapest kind only should be used around the patient, so that it can be burned without unnecessary hardship to parents. Soiled clothes that are worth saving should be immediately placed in a bichloride of mercury bath and thoroughly disinfected. The discharges from the nose or mouth should be received on old pieces of cloth and immediately burned. The excreta should be received in glazed-ware vessels containing the bichloride mixture. Cats and dogs should not be allowed in the room, for they are often the means of spreading infection.

The sanitary condition of closets, sinks, traps, and pipes should be closely examined and rectified if defective. The more particular and precise we are in these arrangements the more perfect will be the isolation, and consequently the safety of other members of the family the better secured. The infective bacilli being present in particles of the exudation which are coughed, sneezed, or spat up and in the saliva and mucus from the nose, readily attach themselves to the clothing of the patient or the attendants, to the walls, furniture, bedding, books, dishes, papers, or may become dry and float in the dust and air of the room; therefore, the necessity of perfect and thorough methods of disinfection, aiming at nothing short of destruction of the bacilli, is very clear. When the attending physician and the Health Officer are perfectly satisfied as to the complete recovery of the patient, it may be bathed with a weak solution of bichloride of mercury, particularly the hair, and in a clean suit of clothing may be allowed its liberty. The room in which the sick one was confined should be tightly closed and thoroughly fumigated with sulphur fumes.

It is advisable to saturate the air of the room with steam while the sulphur is burning. About five pounds of sulphur to one thousand two hundred cubic feet of air space is sufficient; the room to remain closed for six or eight hours. Then the floors, the bedstead, and all woodwork in the room to be washed with the bichloride of mercury wash, about one ~~ounce~~ to five buckets of water; wallpaper to be renewed and woodwork to

be repainted. It has been satisfactorily demonstrated by numerous experiments by scientists that unless there is a certain saturation of the air in the room to be disinfected, the sulphur fumes alone are useless. If you stop short of that degree you have not disinfected the room; you have simply subjected the germs to a high temporary inconvenience and left them to recover in a short time. When diphtheria is present we are frequently asked is there any way adopted to diminish the risk of infection? When one member of the family is affected, as before stated, complete isolation should be enforced at once, and parents should be very urgently warned of the danger of fondling, petting, and most particularly of kissing the sick one; as many of the family as possible, especially the children, should be sent away. If this cannot be done, a careful daily inspection of the mouth and throat should be made. Chlorate of potash gargles and tablets should be freely used to keep the secretions of mouth and throat healthy. The period of incubation is stated by many authorities to be about eight days; therefore, I would always insist that the quarantine should not be raised until the eight days have expired.

Notice of the sickness should be sent to the Superintendent of Schools, so that certainly no one from that family should be admitted until provided with a certificate from the Health Officer, who should not issue it for at least two weeks after the discharge of the family from quarantine. In case of death the funeral should be strictly private, the body of deceased being wrapped in cloths soaked in bichloride of mercury solution and placed in an hermetically sealed casket. In presenting these few practical ideas, divested as much as possible of scientific and technical phrases, to the public, it may appear strange for me to make a suggestion or give advice to medical gentlemen, but I think it well to show up the great inconsistency of some physicians who will well and truly explain to the parents of the sick one the great necessity of being very careful, so that the disease may not be communicated to others of the family; who will learnedly and very scientifically talk about the easy lodgment of the diphtheritic bacillus on articles of clothing and furniture, and tell how tenacious of life these germs are, how long they remain active, for four, five, and six months, and yet after that learned dissertation, and after having applied topically his germicides during much struggling of the patient, who coughs and spits out pieces of exudation on the hands and clothing of the doctor, will leave that patient, and, without any disinfection, or the least idea of doing wrong, visit his own family and children, or the family and children of his patrons. What better medium of communication could be desired? My opinion is that such conduct is culpable, as well as inconsistent. He should thoroughly disinfect with the best known means, and take no risks as to himself spreading the disease.

C. A. RUGGLES, M.D.,
Member of State Board of Health.

VENTILATION AND FOUL AIR AS SOCIOLOGICAL FACTORS OR MODIFIERS.

By P. C. REMONDINO, M.D.

To most persons the subject of "climate" conveys but the most indistinct and undefined idea. They are too apt to look upon "climate" as a corporate, distinct, individualized, and constant element, possessing distinct and varied specific properties, made so by what are generally considered climatic factorial elements, to wit: longitude, latitude, altitude, and surrounding physical geography. This is all very well as far as it goes, but as observed by a British author, there is a broader view, in which we must observe the subject of "climate." In touching upon the subject, he says: "In what has been said, it has been repeatedly hinted that narrow views may exist as to what goes to form *climate*, and that there may be misunderstandings regarding some of its constituents. Temperature, pressure, moisture, motion, etc., are never forgotten, though often very unintelligently considered; but there are many to whom it never occurs that there may be a *chemistry of climate*, and that airs may differ not only in such things as heat and moisture, but in the proportions of oxygen, nitrogen, and carbonic acid which they contain, as well as in the presence in them of special substances, either held in solution or in mechanical suspension. That such is probably the case, every one is ready to admit, yet practically in works on medical-climatology air is just air all the world over. It is true that for many years back experimentalists have labored to show that there are airs and airs as well as dukes and dukes; but still, even at so late a time as in the last years of his life, Dalton said that chemical experiment could not distinguish the air of Manchester from the air of Helvellyn, and it must be remembered that Dalton was equally distinguished as a chemist and as a meteorologist. Cavendish, too, could not decide that the air of London differed chemically from that of the country. Dalton was far wrong, however, as is clearly shown by his distinguished pupil, Dr. R. Angus Smith, in his recent work on 'Air and Rain.' Dr. Smith, we think, originated the phrase '*chemistry of climate*,' and in this work he gives us an extraordinary contribution of facts to the phrase."

To the ordinary observer, the labors of Dr. Smith have but little significance; but this able pioneer, in a field of science that has since been well surveyed, was actually analyzing and investigating elements which, in their presence, as to quantity and intensity, are actually the most potent sociological factors imaginable. How these elements can so act as to demoralize man and convert human beings into brutes, drunkards, prostitutes, and depraved beings generally, and how the opposite conditions can reclaim him, is the object of the following pages.

Nothing in the field of study will so show the homogeneous origin of many etiological factors of disease, sociological conditions, and many

anthropological traits, as the following of the paths of investigation marked out and first trod by Dr. Smith, and no branch of science is more broadly applicable to the amelioration of mankind. It is well to show the utter folly of attempting to treat the mental, moral, and physical natures of man from separate and differently sustaining points, because we have, more than from any other point of observation, observed the close and intimate, as well as inseparable relations, that exist between these natures of mankind, at the same time that we have seen the indestructible interdependence that we must well understand—an interdependence that unfortunately is but little understood, and but too often entirely ignored by those who desire to accomplish the most—the clergy. This is a fault, traditionally connected with theology, with which it seems to be hampered and so clogged, that it really seems as if theology and sound, rational, moral philosophy, based on a physical philosophy, could never at the one and same time hold possession and direction of the one mind. Modern theology, like primeval, ancient, and mediæval theology, will continue to cling to the divine origin as well as the divine power of cure of diseases, perversity, immorality, and devilry in general. The clergyman, somehow, feels that to give up all this will place him in an undesirable position; that much, if not most, of his power will depart from him. Uneducated minds also find it much easier to depend more on prayer and on Providence than on science for their welfare and safety, as the former takes much less study, care, and expense, and is, whilst health and life last, the least incommoding, free-from-care lives; whilst he who depends and lives up to the teachings of science has many things to look after, avoid, and remedy, that his Providence-depending brother is free from. But in return, the rational being is less prone to sickness, being less subject to typhoid fevers, diphtheria, consumption, and such diseases, as well as he is less subject to insanity or milder mental derangements, criminality, and the like order of afflictions. A mental and physical dormancy or a constitutional tiredness favor a greater dependence on Providence than on science, and as these conditions, born of laziness, are apt to continue, theology will always find a fair measure of support from the unenlightened and lazy, or obdurate-minded, and continue to flourish. If the honest and conscientious clergy, however, could once be properly started, and made to appreciate physical facts, morality would be the greatest gainer. With these preliminary remarks, we will proceed to discuss the subject of ventilation.

Unimpeded ventilation accomplishes several objects. It is not alone in the necessary aeration of the blood that perfect ventilation assists us on the road to health and long life, with a better capacity for its enjoyment, but by its free and constant action, and the thorough diffusion and dissemination of the air, it also tends to render inert and harmless those disease germs and fomite productions that are the curse of populous centers; by ventilation we either prevent or mitigate the evils that may arise from the presence of either fomites or oöchles. The general populace believe too literally that "sufficient for the hour is the evil thereof" to worry over the fact that disease germs have an inherent tendency to a tolerably long life, provided they are protected from the light and air.

When an episode occurs like that connected with the tearing down of the fever ward in the old New York hospital, where three out of the five masons engaged died of putrid fever in a few days,* or a case of diph-

* Hospitals and their Construction, by W. Gill Wylie.

theria or typhoid fever occurs in a room which has had similar cases a year or so previously, they are necessarily struck with the fact that the disease lurks about where it has once been, without its once occurring to them that this lurking is due to a tangible explainable cause, a physical avoidable result, and just as plain as that when you sow barley in the ground, Providence permitting, you will surely gather a barley crop. The fact that an old mattress, a manure heap where the stools have been emptied, drinking or bathing water, the dust in the crevices in or beneath the floor or in the wall, or wallpaper, carpets, or bedding, may have retained and conveyed the infection,† does not connect the fact to the popular mind that all these vehicles have carefully shielded and protected the germ from the air, or that most germs have at best but a short life if freely exposed to the air, and a remarkably short one if that air be dry, warm, and sunny.

Recent experiments on the bacillus of tuberculosis have shown it to retain a wonderfully long vitality, extending for years when buried in the ground, while Koch has demonstrated that in the air and sunshine its vitality is limited to some minutes or hours. In the Crimea, the ground occupied by the French and English army became so foul that the project of reducing Sebastopol nearly came to an end without any further diplomatic or armed interference on the part of the Russians. By digging long trenches in the shape of a cross, and building fires at the intersections of the lines, the ground was drained of the mephitic gases that threatened the destruction of the troops. The shifting nomad avoids all these dangers, and, as will be explained further on, he also escapes infection from cast-off clothing, the fact of the exposure to sun and air of the clothes having destroyed all infection being one reason, and his own better aerated blood being another.

From the above it will be seen that ventilation means more than the simple breathing of a purer air. It also means less danger from infection and disease, while deficient ventilation not only prepares the body and mind for disease and infection, but it also furnishes the viable causes for the disease and infection; hence the importance of the subject in a much greater sense than the one in which it is generally considered.

The busy practitioner, daily occupied with the struggle with disease, has his attention fully taken up with the therapeutic necessities of the cases before him. He is expected to know what will relieve and alleviate in this or that case; this is all the patient asks of him; and as he may be successful in this regard, so goes his reputation as a physician. This is really all that the community expects of him. Should he refer to past events, nothing strikes the patient as of any importance, unless it be some serious physical accident or illness that may have preceded the present complaint. A business reverse, domestic affliction, or a severe mental strain, perchance a candidacy for office in some exciting election, or doing business in an unhealthy locality or unventilated apartment, may have come and gone, but to him these are of no importance; if he cannot go back for a starting point to a steamboat explosion, a railroad collision, or a "bad cold which settled on his chest," he cannot see any reason why his present illness should antedate its commencement beyond a day or two. He may have had occasional headaches, probably even some disordered vision and slight vertigo, or, perhaps, felt at times unaccountably tired, forgetful, and an inaptitude to attend to business,

† Condensed Report on Typhoid Fever, Maine State Board of Health Rep., 1889.

but these are mere nothings, in fact it was not even worth mentioning; a seidlitz powder, or a peptonic or soda-mint tablet, generally has set him all right. He does not wish you to think that there is anything serious about him, as he knows full well that there is not; if you will be kind enough to prescribe for his present ailment, it is all he desires.

So it goes. Disease is simply looked upon as something that has a spontaneous origin. The past life, trials, and exposure are supposed to have left no trace or effect on the organism, and the future is expected to look out for itself. Poor patient! he plods along in blissful ignorance that the slight ailment, headaches, or weariness are but the picket-firing of the distant outposts to warn the main body of the approach of an enemy, while he, unheeding and in fancied security, finds himself a prey to his foes. The laity are not altogether blamable for their ignorance in these matters. Our profession has not taken the pains to have them enlightened, and, unfortunately, that very occupation in which we are daily engaged, the healing and reparative art, often obscures from our field of vision that preventive branch of our science to which we must soon look as to something of paramount importance, if we wish to raise a rampart against the rapid encroachments of the physical, intellectual, and moral degeneracy which is fast undermining the great mass of the population in civilized nations:

Statistics may at times be erroneous and unreliable, but there is no mistaking the fact that nervous and morbid irritability, as well as idiocy and lunacy, are on an alarmingly rapid increase. In England alone—where statistics are reliable—since 1859 the increase has been excessive, the total of idiots and lunatics being, after making all allowance for increase of population, all of 33 per cent greater than it had been for the same period of time previously. Throughout the land, asylums, hospitals, retreats, jails, and like institutions for the physically or morally wrong are multiplying, and infirmities and depravity are increasing at an equal pace. We all admit that for certain effects there must be specific causes. To find this cause falls to the province of the hygienist and demographist. As physicians, we are well aware that a pathologist must of necessity first be an expert physiologist; he must first understand the condition of the tissues in health and their normal action to be able to appreciate when they have deviated therefrom.

Let us, for example, take the Indian of America. Catlin tells us that in all his observation, both in North and South America, he never saw an idiotic, lunatic, deformed, rachitic, deaf, or dumb Indian, either male or female; neither did he, at any time, after the closest inquiry, find a tribe that ever had any premature mortality, deaths from teething, cholera infantum, or infantile diseases; neither did the women abort or have premature births.

My own observation among the Sioux, Chippewas, Winnebagoes, and the California tribes of Indians is confirmatory of the above; to which I might add, that although I have seen many of them drunk, I have yet to see the first case of delirium tremens in an Indian.

Benjamin Ward Richardson, in an instructive lecture delivered in 1885, before the Association of Sanitary Inspectors, reviewed the relations of the nomadic or homeless people of England in their relation to health and disease. He observed among this class a peculiar exemption to infection from zymotic diseases, mentioning particularly the gypsy, whom he has seen camped in neighborhoods infected with scarlet fever

without incurring any risk, and he has never seen one marked with smallpox; these people have neither phthisis, scrofula, or any kindred diseases. From my own observations I do not remember ever seeing a feeble-minded, idiotic, or lunatic gypsy.

If, in a family of six, we were to find three who had partaken of some particular article of food, who were very sick, and the other three who had not touched it well and uncomplaining, we would be safe in assuming that the particular dish was the cause of the sickness in the first three. Now, if one of the well ones should accidentally or intentionally eat of the same dish, and likewise sicken and present analogous symptoms to the other three, we then would have conclusive evidence that this dish was the real and only cause of the disturbance.

If we apply the same rule to the general physical conditions, we find that barbarous and nomadic people were all in the enjoyment of the best of health; that finally a portion became civilized, and then began to house themselves in; that with this change in their habits and customs also came ill-health, physical and mental ailments, and general degeneracy. We notice further, that those who still follow the old nomadic habits retain their health and enjoy exemption from disease, but we also observe, that whenever any of these adopt the customs of the civilized man and go on and house themselves as the others have done, they sicken, and that their children become like the children of the close house-dweller—a prey to all kinds of ills and to premature mortality. That the change from an out-door to an in-door life is the cause of the departure of health is self-evident, and still better confirmed, when the close house-dweller partly resumes the more open-air life of his ancestors and is found to have regained lost health and exemption from disease. It needs neither bacteriology nor the pathologist to confirm our deductions.

Some years ago an Indian agent built a number of farm-houses for the Indians in his charge. What was his surprise, when on a visit some time subsequently, to find the house littered with the harnesses, plows, saddles, with other farming implements, and the Indians camped at a safe distance in their tent. On inquiry, the Indians told him that the house had made them all sick, and that some of them had even spat blood, and that they had moved out and were now all right.

There can be no doubt that the difference in health, depravity, and mortality that exists between strictly nomadic people, uncontaminated by border civilization and civilized man, can be attributed in a great measure to mode of habitation, as we find that those who live in large and well-ventilated houses, or whose occupation keeps them out of doors, and where the climate allows of free and constant ventilation at all seasons, that the people more nearly approach the state of perfect health enjoyed by the nomad.

Popular opinion on the subject is very crude. The majority have in some manner a vague idea of a carbonic oxide that kills, and some of the better informed will tell you of the Grotto del Cane; they have also some idea regarding the favorite Parisian mode of suicide; and they are not astonished at such occurrences as that of the Black Hole of Calcutta, the ship "Londonderry" with its seventy-two dead in the steerage, or at the English sloop that smothered all of its seventy passengers between Jersey and Southampton; they also know that they should not venture where a candle will not burn. In my opinion it is the erroneous views

that they hold that prevent them from really and fully realizing that there are unseen dangers in unventilated apartments besides mere unrespirable air, and that the cause which daily places people where they are sure to suffer irremediable injury is their lack of knowledge concerning the real dangers. They rely for safety on the fact that the light burns brightly in a certain atmosphere, and that therefore they run no danger, the burning taper being their criterion of the respirable condition of the air. The laity should be taught, what De Saussure long ago demonstrated, that the fresh, invigorating, effervescing mountain air contains a greater percentage of carbonic oxide than the air of the plain or seashore, and that on a bright day the air of a London or New York park actually contains a less percentage of carbonic oxide than the air of the Catskills or the hills of Scotland. They should realize that carbonic oxide is not inimical to life, but only cannot support life; and that persons going into a carbonized air that will hardly support a candle alive, have actually at first not even found it objectionable; and that but in a few isolated instances this is the last source of danger from unventilation. We are not now speaking of the absence of oxygen, but only of impurities that mingle with respirable air. They should also understand that any injury, or even asphyxia, that may result from the presence of carbonic oxide gas in excess—that such sickness is quickly recovered from, provided the condition is not pushed too far. Where there is danger, however, the calamity occurs suddenly, and where the recoveries are made, they are as prompt.

As has been pointed out by Brown-Sequard and D'Arsonval, the morbid element in respired air is the pulmonary emanations, to which they might have added the perspiratory effluvia. The great delineator of the human passions and frailties, Shakespeare, has well depicted the effect of this effluvia from skin and breath in his "Julius Cæsar," where the rabble so yelled with a deal of stinking breath and threw up their equally stinking, sweaty night-caps, when he refused the crown, that it caused Cæsar to faint and Casca to hold his breath for fear of taking some of the poison into his own lungs.*

The best account of the effect of this organic poison is from the pen of Dr. Holwell, one of the twenty-three survivors who escaped alive from the Black Hole. His account, written in 1757, fully shows each step of the action of this intoxicant and narcotic poison, which, after many hours, left him still conscious, but "sensible of no pain and of but little uneasiness, with a stupor coming on apace, in which condition I laid down to die in peace, and gradually became unconscious." The maddening, intoxicating phrensy of men, as described by Holwell, cannot be ascribed to the mere fear of death, as British soldiers have met death, going down with dressed ranks in a foundering troop-ship that confusion might be avoided and the women and children saved. In that tempest and storm-tossed ship, however, there was not that poison from animal effluvia accumulating in their blood like fusel oil.†

Hutchinson well observed that "we unwisely neglect the study of the differences that exist between man and man—a difference that, for the most part, physiology takes little cognizance of, but which may prove of much importance in modifying the Processes of disease."* In our zeal to

* Julius Cæsar, Act I, Scene II.

† Family Physician, chapter on Hygiene, published by Cassell & Co., London.

* The Pedigree of Disease.

master or to carefully study the disease, we are so apt to make it a self-consistent condition, and become so absorbed in our research, that we are apt to lose sight of first principles. Hutchinson deplores this tendency; and Richardson—in speaking of our classification of disease as “unsystematic and fanciful, and its nomenclature imperfect, even for the technical purpose of language, and inapplicable for the higher development of medical scientific research and practice”—also felt that we were drawing away from first principles.† Were we to keep in mind that heredity is only an acquired or cultivated habit; that, as our forefathers in the days of Tacitus roamed through the forests of western Europe without aid of spectacles, the physique of the German, Gaul, Goth, or Briton was the admiration of the warlike Romans, whose superior arms and discipline alone enabled them to overcome them; and that these men had neither gout nor phthisis—we could not reasonably say that we owe our infirmities to their simple, martial, out-of-door life. Heredity must, therefore, have had a subsequent origin so far as our diseases are concerned, and, as they do not originate spontaneously, where did they begin? Morel, in his work on the degeneracy of our race, places toxæmia as a primary cause.‡ Toxæmia has several sources from which it may result, and a careful study into the original cause of diseases will generally result in establishing the fact that outside of those originating in a specific disease germ, some form of toxæmia is generally the starting point of sickness, and that even most of the other diseases that owe their origin to, or that can be propagated from, a bacillus often themselves have their primary birth in toxæmia, whether it be from over-feeding, uræmia, or infection from the emanations of respired air, or from some animal or vegetable decomposing matter. From whatever source it may come, it often produces precisely the same results.

In a paper read before the Southern California Medical Society, entitled “A Plea for Circumcision,” I showed that one of the main dangers or results from reflex irritation lies in the toxæmia that it may induce. In the paper mentioned, I followed the different reflex processes due to phimosis up through to the obstinate and irremediable constipation due to sphincterismus, a condition described by Agnew,§ of Philadelphia. In following up the different steps that the condition assumes, I showed the immense importance that Sir Lionel Beale attaches to blood composition as the ground-work of health or disease, wherein he truly observes that “blood changes are the starting points, and may be looked upon as the cause of what follows,” the other factors being the “tendency, or inherent weakness or developmental defect, of the organ which is the subject of attack.” To which he adds, that he feels convinced that if only the blood could be kept right, thousands of serious cases of illness would not occur; while the persistence of a healthy state of the blood is the explanation of the fact that many get through a long life without a single attack of illness, although they may have several weak organs, and that an altered state of the blood, a departure from the normal physiological condition, often explains the first step in many forms of acute or chronic diseases.* Sir Lionel might have added that the “tendency or inherent weakness or developmental organic

† Diseases of Modern Life.

‡ *Traité des Dégénérescences Physiques.*

§ Agnew's Surgery, Vol. I.

* Beale. Urinary and Renal Disorders.

defect," which, after all, is all the foundation or ground-work for the hereditary diathesis, is itself the outgrowth of transmitted toxæmic tendencies, or conditions affecting former generations, or of previous toxæmic results in the individual itself, as we can safely assert that our fathers, of barbarian memory, left us no inheritance of developmental organic defects. The daily increase of these physical defects shows plainly that they are so, not from inheritance, but from present causes or cultivation, as well as it plainly explains that toxæmia lays the tendency to reflex troubles, also on the increase, which in turn favors further toxæmia by the disturbances, deterioration, and morbid sensitiveness that they occasion—the retroactive effects of either good or bad physical condition being here fully exemplified. Fothergill shows how this condition of blood, whether due to reflex irritation, unventilation, or overfeeding, or from mental disturbances, eventually results in uræmic difficulties which engender kidney disturbances, notably Bright's disease, and that instead of these diseases being the cause of the uræmia that finally takes off the patient, the uræmia is the real starting point of the kidney disease, which goes on until such structural change has been effected that we reach that point where the kidney is no longer equal to its functions—the renal inadequacy of Sir Andrew Clarke.†

In the Bradshaw lecture, an extract of which appears in "Braithwaite" for January of 1889, William Carter observes as follows: "According to Bouchard, one fifth of the products of the total toxicity of normal urines is due to the poisonous products reabsorbed into the blood from the intestines, and resulting from putrefactive changes which the residue of the food undergoes there."

One of the changes that full respiration in the open air effects in the blood is the destruction of these toxic elements. This is mentioned for the purpose of explaining the intimate relations that exist between all the causative conditions, physiological or pathological, that tend to induce toxæmia. The large-lunged and deep-chested Indian will eat at one meal as much food, indiscriminate as to quality or state of preservation or of putrefaction, as will an ordinary white man for three days, or even a week; but toxæmia, with the attending ills, does not find in the Indian a favorable resting-place, so that after the most gourmandizing meal he is in no more danger from toxic absorption than he is from an attack of delirium after the most generous or protracted drunk. Former perfect aeration of the blood has not left him with any developmental organic defect in the minute structure of his organism, and the present perfect condition of his respiratory apparatus oxidizes and works off into the outer air all the toxic products that are brought to it. He needs neither pepsin nor naphthalin to insure him against toxic accidents.

It is evident that we have different sources by which the blood can be charged or overcharged with toxic products, but it must remain fully as evident that nature has given us the organs of respiration for their elimination. The skin and kidneys are depurative mediums, and very important channels it must be admitted, but we must not fail to recognize that they are not the chemical laboratories that the lungs represent. It matters not if all the chemical changes do not take place in the lungs, it is through the lungs that the agents are taken that must bring about the changes; and, after all said and done, it may safely be assumed that

† J. Milner Fothergill, in *Satellite*, February, 1889

imperfect blood depuration is the starting point of ill health, either physical, mental, or moral, for what matters it whether you have a pneumonia or phthisis, or are even insane owing to a cardiac derangement, or are insane from uræmic retention due to Bright's disease, or you are laid out racked with gout, rheumatism, and allied disorders, or are even watching the slow approaches of grim death through the slow process of senile gangrene, with an amblyopia that even robs you of the comfort of reading, and distraction, we must in every case go back to the primary cause, which will always be found to be toxæmia. It is always imperfect blood depuration that is the *fons et origo mali*.

To what fine distinctions, differences in condition of health or disease may be due, after the developmental defect or inherent tendency has once been established, and to what trifling circumstances a person may attribute his particular point of divergence from health, may be inferred from the fact that even in an apartment where the ventilation may be equal in all its parts, a particular form of task may so affect the breathing organism by strengthening or weakening the organs of respiration that a statistical difference in the health of each class will be noticed. For instance, Lombard long ago furnished statistics that showed that the copyist was much more prone to phthisis than the bookkeeper or accountant,* the steady, unmoving work of the former occupation making the difference; the typesetter in a printing establishment is much more subject to the same disease than the pressman.

Another condition of affairs which must not be overlooked in this connection is the fact that the predisposition or tendency-causes do not by any means cease with the departure from the office or work-room, for the better developed muscles of the chest, in the pressman or ordinary and more active clerk, when in the outer air, so work as to more effectually empty the lungs and aerate the blood, while in the copyist and typesetter, as in the mosaic worker, they are weak and undeveloped, and but ill perform their functions, so that even when in the outer air, owing both to lesser chest capacity and feebler respiratory movements, aeration is never as perfect; so that either in the house or out of doors he loses more ground in the physical scale than the other classes. I have purposely taken the extreme illustration, where, however, statistics fully support the proposition, to show that the physiological working condition of the respiratory apparatus cannot all be overlooked, and that all does not depend on sanitary architecture.

There is much in popular errors that helps to bring about our condition of physical degeneracy; for example, people look upon cold as their great and dreaded enemy, whereas cold, unless in an extreme degree, does not and cannot hurt any one primarily. To shut out the cold, which is harmless, they shut themselves up with ochlesitic poisons, as moribific and fatal in the end as the effects of alcohol or fusel oil. They have a vague idea that "catching cold" is to be avoided, but they have not the least idea of the lasting poison of ochlesis or in fomites. A man will give a friend a wide berth during the critical period of typhoid fever, but as soon as that period is passed, he and his whole family will troop into the room, in blissful ignorance of the researches of Uffelmann and others into the wonderful tenacity of life possessed by typhoid bacillus; or, so that they avoid the immediate breath of a consumptive, they live in fancied security. That this infection, as well as that of typhoid and

* L'Influence des Professions sur la phthisic pulmonaire.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

2. Next, it is important to gather relevant information and data. This can be done through research, consultation with experts, or by analyzing existing data sets.

3. Once the information is gathered, the next step is to analyze it. This involves identifying patterns, trends, and relationships that can help in understanding the problem.

4. After analysis, the next step is to develop a solution or plan. This involves identifying the most effective and efficient way to address the problem.

5. Finally, the solution is implemented and monitored. This involves putting the plan into action and tracking its progress to ensure it is effective and efficient.

1. The first group of people who are interested in the study of the history of the United States are the people who are interested in the history of the United States.

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way into those Peruvian homes—which Americans find so peculiar that people sit in the chilly air with their shawls without having sense enough to close the doors—finds a short existence.

Davis, a former Governor of the British colony in Hong Kong, in his work on the customs of the Chinese, tells us that, among the higher classes, when a visitor arrives, he finds a ventilation in their large and open apartments equal to that out of doors, but that the host has generally a large assortment of furry coats which are handed out something like napkins at an afternoon tea; with his other hospitalities, the Chinese gentleman sees to it that his guest's health is not ruined in his house.* It might be added that the free use of weak and tepid tea, in which they all indulge, acts in no small way as a preventive of uræmic accumulation, for without going to the extent advised by Sangrado in *Gil Blas*, there is no doubt that many of our people, considering the amount of food they consume, take hardly enough fluid to assist proper blood depuration.

The example of the Chinese in regard to ventilation and hospitality could be ingrafted into our civilization with benefit not only to our health but to our morality. Some may perchance think that with the indiscriminate use of these garments, diseases would be more and more disseminated. This would not be the case, however. In the first place, there would be less diseases; and secondly, Richardson, as already observed, has shown that vagrants who deck themselves out in cast-off odds and ends of clothing, which are often infected, hardly ever receive any harm from the clothes, the sun and air having effectually slain all the bacilli or disease germs. I cannot see why the profession cannot accept the fact that pure air and sunshine are the preventive agent, as well as the curative means, in phthisis, and drop all of those makeshifts with which they torment themselves and the patients, such as the hot-air treatment with which some undertake to circumvent the wily bacillus.

Gout and rheumatism, as well as asthma, owe their origin to deficient blood aeration much more than is generally believed. The classic attack of gout suffered by Sydenham when composing his work on gout, as well as that other attack suffered by John Brown, equally as classical, but more important, as it was the keynote to a revolutionary movement in medicine, and an inaugural point for the conception of the Brunonian doctrine of *sthenia* and *asthenia*, were undoubtedly due to the weakened and imperfect respiration that at the time affected those two beacon-lights of medicine. The English Hippocrates was no doubt absorbed, and writing with bated breath his dissertation on gout; and from Brown himself we learn that he was weakened down and below his normal condition of health at the time.†

Loomis writes, in his edition of "*Charcot on Diseases of Old Age*," of a Confederate officer in whom the gout was developed by confinement in an unhealthy and damp prison, with insufficient food;‡ and is it not a generally known fact that Holwell, already mentioned, suffered from a severe attack of the gout in one foot a few days after his liberation from the Black Hole?§

* The Chinese, by J. F. Davis, F. R. S.

† Brown's Elements of Medicine, Preface.

‡ Wood's Med. Library, Vol. June, 1881, p. 91.

§ The Family Physician, Cassell & Co., Vol. IV, p. 971.

I have seen instances of gout developing under similar circumstances, notably the case of a physician accustomed to an out-of-door life, who found himself confined to the bedside of his child afflicted with measles; he never left the little fellow's bedside, and the room was kept closed. On the recovery of his son he suffered severely from his first attack of gout. Although his family has no gouty or rheumatic history, they being long-lived, hearty people, one week of close air developed a disease that may require generations of careful watching and pure air to eradicate from the family should he have any more children.

On the other hand, the case of the rich and gouty old priest, observed by Van Swieten, and mentioned by Fothergill in his work, § is very instructive. Here was a cheerful old gentleman of the old school, a good liver, who took but little exercise, well fed, and taking his after-dinner naps in a room carefully closed to exclude the heat and flies of summer and the cold of winter. We may rest assured that he used his respiratory muscles but to very little purpose, probably never taking a deep respiration, unless after his social pinch of snuff with the burgo-master, which undoubtedly induced a healthy sneeze. His capture by Barbary pirates, who took no stock in full meals and after-dinner naps in close rooms, cured him of his gout; the fresh sea air and the deep inspiration required properly to propel a galley oar furnished a medium through which a complete oxidation of the urea took place, and an efficient exhalation of all toxic material.

Professor Marfan, of Paris, has related the occurrence of what might plainly be called an epidemic of phthisis, where one consumptive in an atelier, by promiscuous spitting all over a rough floor, so managed to infect the rest of his twenty-two fellow-workers that in six years after his own death they began to die rapidly, until fifteen out of the twenty-two were gone. Marfan and Vallin laid the blame on the character of the floor and the sputa infection; the old floor was removed, the apartment disinfected, a new, well-jointed, and smooth floor laid, and the epidemic ceased.* Cases like the above, but not so extensive, are common enough to make us feel a wholesome dread of the bacillus, regardless of what contrary opinion others may hold, and founded on ever so many experiments. But this does not alter the fact that we have depended too much on the bacteriological origin of phthisis. Where one person becomes phthisical through the bacillus, there are a dozen that have become so without coming in contact with it. And while in our zeal we have pursued this branch of our science, we have closed our eyes to the fact that deficient ventilation is the most prolific source of phthisis, regardless of the presence or absence of the bacillus. We are getting to depend altogether on the bacillus, which, like Falstaff's men in buckram, is multiplying and fast becoming the cause of every form of disease.

Another incident wherein the bacillus is made to usurp deficient ventilation as the cause of a disease, is the lately discovered fact that a bacillus has been recently found in connection with trismus. To attribute the origin of trismus to any bacillary cause we must altogether ignore all that we know of the disease. If the literature on the subject were scanty, or obscure and indefinite, and the observer incompetent, and our experience in its connection unconclusive, we might begin to doubt; but such, however, is not the case. The literature is very intelligent,

§ Gout in its Protean Aspect, p. 164.

* Boston Med. and Surg. Jour., Vol. 122, No. 18.

authentic, and exact on the subject. The work by John E. Morgan, F.R.C.P., entitled "The Diseases of St. Kilda," devotes much intelligent explanation to the cause of trismus. Morgan was a close observer, and noticed that the disease did not prevail on the neighboring Hebrides. In his search for a cause, he observed that a like equable, mild climate affected St. Kilda and the Hebrides, but he noticed further that while in the latter islands the inhabitants live in the Scotch bothies, such as are found on the Scottish coast, built of loose rock and stone, with plenty of crevices and an open chimney, those of St. Kilda were built of rocks, but closely cemented at every joint; and that although, as in the other islands, a peat fire is used, the cottage or hut has no hole for the escape of the smoke. On inquiry he found this difference in custom to be due to the scarcity of seaweed on the St. Kilda shores. On the Hebrides, either owing to different winds or ocean currents, the weed is plentiful, and is used for manure, while at St. Kilda the soot that has gathered on the walls and under the roof is scraped off in the spring and used to enrich the fields. To allow this soot to collect the house is kept carefully closed. Doctors Morrison and Maxwell, who practiced in the West Indies, attributed the existence of trismus in those islands to the confined and smoky condition of the houses. The same may be said of the negro huts on the Florida and Georgia coasts where trismus has been observed, and lastly, the experience of Joseph Clarke, and subsequently of Collins, in the Dublin Lying-in Hospital, where by continually improving the ventilation the trismus epidemic was checked, would seem sufficiently to prove the foul air origin of the disease.

On the other hand, it must not be overlooked that want of ventilation will engender very infectious and contagious diseases. Dr. Parry, in discussing other subjects, says: "It may be stated, as a general proposition, that all living bodies, when crowded together, generate a matter which would seem to be highly destructive. No species of animal can congregate in ill-ventilated apartments with impunity. Under such circumstances, the horse becomes infected with glanders, fowls with the pip or pep, and sheep with a disease peculiar to them, if they be too closely folded. It is worthy of remark that these diseases, evidently engendered by congregation, become subsequently contagious. In the expedition to Quiberon, in 1795, several transports, crowded with horses, had their hatches shut for a considerable time in a storm, by which some of them were suffocated, and amongst the surviving horses the contagious disease called glanders was propagated. At another period it was proposed to send livestock from England across the Atlantic, but the animals all died of a febrile disease in a few weeks, in consequence of being too much crowded." From this we may readily see that the ill-effects of unventilation are more far-reaching than generally believed, and we can as readily perceive how the same cause may engender serious organic disease in men. Furthermore, we cannot escape the conclusion that it is not alone the individual sufferer who may be the victim, but that a violent contagious or infectious disease may, from such a small beginning, nearly depopulate some countries. Asiatic cholera but too often has such a possible factor.

Maudsley has well said that the mind is the most dependent of all the natural forces, and that for its existence all the lower natural forces

are indispensably prerequisite.* The time has gone by when the mildly lunatic was tortured, hung, or burned at the stake as a criminal, while the phrensiad, raving maniac was either chased about like a wild beast or considered as a demoniac and deluged with holy water and prayer. Pathology has here opened up a study that has not yet fully brought out all its fruits. Liver abscesses, or empyema, is now known to derange the mind as much as we realize that intestinal irritation will produce night terrors. Readers of Silvio Pellico's "My Prisons" will not forget his graphic description of the hallucination that he suffered while confined under the "leads," or leaden roof, of the ducal palace at Venice, finally relieved by what must have been the spontaneous discharge of an abscess into the intestinal tract, when all the mental disturbances at once left him. It is also a recognized fact that uræmic retention holds a very close relationship to insanity, Dr. Alice Bennet showing, in a paper read before the Pennsylvania State Medical Society, the connection between it and Bright's disease.† The connection between the habitual or excessive use of stimulants and the development of insanity is too well acknowledged to require more than mere mention, except that we may add that it is among the lower classes who use the excess of liquor that we find the greatest amount of lunacy, and observe further, that which has been more than once suggested in the course of the paper, that by insufficient analyses of our subjects we oftentimes connect and mingle coexisting effects as cause and effect, and often place a result as a primary cause. In this respect we must not forget that among the poor there is an inherent tendency to infirmities, mental and moral, as well as physical—a condition due to the deterioration caused by want, lack of proper nourishment, anxieties, suffering, and lastly, but not the least, the foul air which they must of necessity continually breathe. Liquors and stimulants are the causes to which all the miseries and physical as well as mental afflictions of the poor are attributed—as if poverty itself were no misery, and did not carry in its train sufficient ills aside from the use or abuse of alcohol! The premature mortality so excessive with the poor, their ailments, feeble-minded, rachitic, or consumptive children, depravity, moral degradation, idiocy, and insanity—in fact, all that may happen, either in the line of physical or of moral degradation, is attributed to alcohol. Alcohol with them has become a necessity, owing to the morbid condition induced by foul air.

A reviewer of Acton's work on prostitution mentions the swarms of child prostitutes that infest the low quarters of London, whose existence he attributes to a "brutal stupefaction of the moral senses, resulting from an utter ignorance of what is good or evil." Were I to review the reviewer, I might ask how ignorance can cause brutal stupefaction of the senses, either moral or otherwise. In the present age, we fully understand that for all effects there must be a specific, self-sufficient cause. It may not be found at once, but we should neither jump at a conclusion nor cover our ignorance in the matter by a mere figure of speech. Saying that their mothers drank alcoholic liquors, and that precept and example have lowered and debased them, even if they are too young to have drank themselves, does not satisfactorily explain the existence of the swarm of child prostitutes, or how they arrived at the stupefaction of the moral senses. My own opinion is, that on alcohol

* Maudsley. *Physiology and Pathology of the Mind.*

† *Med. News*, Oct. 4, 1890.

we lay the blame so that we may not blame ourselves for the indifference and neglect of the human family in our immediate neighborhood: it is a certain relief to the conscience to say that they drink—drink has brought it all on them: we then wash our hands, like Pontius Pilate, and the Passion Play goes on. Drink, however, does aggravate and precipitate many conditions that the poor have in them with a strong inherent tendency. Every practitioner knows that among the children of the poor, living in crowded tenement houses or basements, there exists a disposition to convulsive and nervous diseases, as well as that they are more subject to zymotic diseases; and that, too, where the parents are habitually sober. Nearly every physician who has had such practice has often wished for the wealth of a Vanderbilt or a Jay Gould, that he might relieve the poor, patient, anæmic little children who seldom see any joy, and who seem from birth wedded to a life of misery. The question has often occurred to me, while looking on these helpless children, is it possible that the philanthropist and statesman are unacquainted with the effects of foul air? That such an air, which will give an ordinary gentleman, accustomed to well-aired rooms and fresh air, a headache that will last him all day, or even produce in such a man an illness, must be poisonous, no one will doubt.

In a concentrated accumulation this foulness has shown serious results besides the Black Hole and other such episodes. Guy, in his work on Public Health, quotes from Sir John Pringle, in connection with the work of the philanthropist, John Howard. He there relates that in the May sessions of 1750, at the Old Bailey, forty persons perished from putrid fever, caused by breathing the foul air that issued from the jail-room and prisoner's dock; of this number, four were Judges, and the rest officers, barristers, and jurymen. That was an extreme case; but I have often visited sick children in rooms and beds, where between the fumes of cooking, the over-heated room, and the steam from drying clothes, added to the exhalations of half a dozen large-lunged human beings, the room was so offensive that I made my visits very short. This air has precisely the same effect as alcohol or fusel oil, and the slow, steady effect on the nerves of the susceptible little child is to create a morbid irritability which later calls for alcoholic support. The little bodies of these poor children have no more resistance, strength, or endurance than their little brains; they are morbidly sensitive, and age early; want has developed a precocious sharpness of instinct, and the foul air that has poisoned their young blood has precociously matured their sexual organs, while the rest of their physique lacks development. Foul air is more than sufficient to cause all these conditions without the assistance of alcohol either in the child or its parents. It is the foul air that produces that "brutal stupefaction" of the moral senses before alluded to. In one London parish, out of eighty little girls raised in its work-house, seventy-nine were afterwards found, on an investigation, to be on the street,* and Dr. C. F. Taylor relates that in one New York asylum for feeble-minded children, fully two thirds of the children masturbated, the proportion being about equally divided between the sexes. By careful investigation it developed that among these feeble-minded children the habit came by intuition—the morbid excitability of the sexual organs being the cause—without assistance from either precept or example. The girls were found to begin at the age of eight, and the

* A Home for the Homeless, by the Hon. Mrs. Wray.

boys at ten.* Society and the State furnish millions for the suppression of the depraved class, when a tenth of the sum would effectually prevent its formation.

The unnamed author of a remarkably instructive little work† on ventilation in its relations to life and disease, makes the following true observation: "The combined testimony of those who have taken the pains to investigate the causes of vice and prostitution leaves no doubt that a low condition of body and mind, coincident with a morbid irritability of the brain, so far from restraining (as might be surmised) the animal propensities and vicious inclinations, has no inconsiderable share in their aggravation and production." The effect of foul air on the brain has been well depicted by James Johnson, in connection with the death of Mr. Justice Hays, who was stricken with paralysis and apoplexy after a day's sitting in the foul air of a court-room. "The blood," observes the doctor, "imperfectly aerated, and charged with the exhalations from numerous lungs breathing the same atmosphere, is impeded in its passage through the minute arteries, whose muscular walls contract and hinder its progress. Hence the sense of fullness, pain, and throbbing in the head, while the heart beats with increased force to overcome the impediment and to drive on the blood."‡

Dr. Johnson's labors in the field of renal diseases are well known, and he explains in the above the cerebral action of impure blood, a subject with which he is perfectly familiar. It is preposterous to imagine that the delicate brain and nerves of a child can stand the continued effect of such a poison without harm; and civilization can only plead ignorance as an excuse for its sin in the way of omission, in thus neglecting the child and allowing it helplessly to grow up food for the jail or the gallows. Were the clergy to study physical causes and effects more, they would see that the first principle to be instituted to obtain a moral man is perfect sanitation, without which all mission work and sermonizing might as well be made to the four winds.

As a summary of what has been advanced in the foregoing paper, it may be stated that it has undertaken to show that the visible point of departure from a condition of general good health and an unimpaired organism is plainly where the nomad diverges from the free, out-of-door life of his ancestors, and incloses himself within four walls and a roof that exclude the sun and air, and retain his own exhalations. Prior to this occurrence we can find no history of developmental organic defect—neither inherent tendency in any organ or part to disease, to morbid irritability of body or mind, or tendency or liability to reflex troubles of any kind. That ventilation is the prime factor that induces this wonderful moral and physical perfection by allowing the aeration of the blood to be fully carried on as the Maker intended, is evident from the fact, as cited by Hirsh, that there are populous industrial centers on the high plateaus of the Andes, cities of from twenty thousand to three hundred and twenty thousand inhabitants, where the bacillus tuberculosis does not seem to thrive or find a lodgment; so that mere density, industrial pursuits, or civic aggregation cannot be said to be the cause of the physical degeneration observed elsewhere. The secret of the exemption in these communities is found in the simple fact that either in August

* Am. Jour. of Obstetrics, Jan., 1882, p. 163.

† House of J. S. Redfield, Clinton Hall, N. Y., 1849.

‡ London Lancet, Dec. 11, 1869, p. 824.

or January the thermometer marks 60° F.; that their houses are never closed at any time; if they feel chilly, they simply put on an extra shawl or poncho, *but they do not close the door*. It may also be stated that these localities are not financially drained to maintain swarms of idiots, lunatics, rachitics, crippled paralytics, criminals, or prostitutes, either in reformatories, asylums, hospitals, or jails. Such are the facts, and we can draw our own inferences. One thing is certain, that these people literally live out of doors.

The erroneous opinions of the public in regard to the effects of good or bad ventilation have next to be considered. That ventilation does not receive the consideration that it deserves from the public, is undoubtedly due to the reason that they misapprehend the really dangerous element that lurks in non-aerated rooms; further, they lack the appreciation that there exist gradations in effects proportionate to the causes. They can, as a rule, only appreciate extremes of conditions. That each intermediate fraction of space between a sane man and a phrensiad maniac can be accurately filled by a specimen representing each gradation cannot be understood by them, any more than that one gradation leads to the other. Neither can they understand why there should be preparatory processes to the inception of a diseased condition. When the poor consumptive asks you simply to give him something for his pain in the chest, or to stop the cough, or to arrest his night-sweats—it is all that he wants; stop that and he will be all right—it fully shows the popular idea of disease and the popular appreciation of the processes through which the body must pass to reach certain stages or conditions. It cannot be said of them, as the French said of the returning aristocracy in 1814, "They have learned nothing, but they have also forgotten nothing." Through civilization our people have learned nothing of benefit to their health, and they have lost that instinct for fresh air so dominant in nomadic tribes. Oswald relates that when the Circassian chief Shamly-Ben-Haddin was captured by the Russians, in 1864, he offered his captors the best part of his rations and all his personal valuables for the privilege of sleeping in the open air, feeling that one week more of the nausea and headache consequent on his sleeping indoors would drive him to suicide. General Houston, who spent his life among the Cherokee Indians, never could endure a close room or a crowded hall for more than a few minutes. As our people have forgotten or lost these instincts, they should be instructed as to their danger. With no knowledge or instinct in so important a matter, it is not surprising that they so often come to grief.

There is no reason why they should not understand that the strength and endurance, health and expectation, of life must be measured, like a chain, by the weakest link, and if that one organ be enfeebled, the apparent health and strength of the other only hastens the destruction of the whole, for, as George Murray Humphry observes, it is requisite to longevity that "each organ must be sound in itself, and its strength must have a due relation to the strength of the other organs. If the heart or digestive organs be disproportionately strong, they will overload and oppress the other organs, one of which will soon give way. One disproportionately feeble organ endangers or destroys the whole."* If the laity could be made to realize that between lasting and enjoyable health, and sickness and lingering misery, there is but a shallow and an almost

* Humphry. Old Age.

imperceptible Rubicon to be crossed, whence there is no returning except on a compromise made by running the whole machine on the basis of the weakest organ, and that one hour spent in a close room may be to them that Rubicon, much more attention would be paid to the importance of ventilation. The writer has seen, more than once, a child born perfect and sound, but one half hour's overheating in a close room, by an over-sollicitous nurse, produced a nasal stenosis that has followed the child into adult life, with the anæmia and all other ills that accompany such a condition of affairs, changing the temperament and constitution completely from what it would otherwise have been. Ventilation will not exempt man from all things; but, from a careful consideration, it is safe to assume that if all the ills that deficient ventilation does create were eliminated, the remainder would require but little care.

Hippocrates gave us air, water, and locality, as the three ingredients of climate. Angus Smith gave us the chemistry of climate, which analyzes the quality of the air. After many excursions and exploring expeditions in search of something better, we are gradually drifting back to our old friends' way of thinking, and we are now as convinced of the uselessness of climatic classifications as we are of those of drugs or diseases; in fact, we have found out that the many pursuits and side studies, researches and discoveries, have, through our zeal, led us somewhat astray. Sydenham, Heberden, Boerhaave, Tissot, and Rush all tended to a greater observance of nature, and tended more to treat the individual man than the individual disease; the latter they generalized more than we have done. Beale, Thompson, Fothergill, Johnson, Hutchinson, Black, and Richardson have so far advanced beyond the beaten path that medicine has trod during the last sixty years, that they recognize a great fatherhood to our ills and pains in one great standing and distinct point, this being where perfect depuration ceases and where imperfect blood depuration begins. It is this that marks, as it were, the visible line of physical differences as a mass between the nomad and the civilized man, and its cause is in a free or an imperfect ventilation. The limits of this paper will not permit a dissertation on all the remedial measures that should be instituted to relieve the evil conditions pointed out. Were it practicable to reestablish the old Spartan tables of the Lycurgan system—with its black broth, bread, olive and fig banquets, and with it the iron money—it would at once sweep free the coming generations from the cursing evils that affect the present one in a fast increasing ratio. It would not only benefit the poor, whose blood is impoverished by too innutritious food, and who are poisoned by foul air, but it would equally benefit the rich, as the bill of fare of the Lycurgan board tended not to induce diseases due to plethora or uræmia; but it is useless to dwell on such an Utopian prospect. Chauncey Depew and Ward McAllister would put their foot down on any such proposition. Were people less touchy about the question of interference with their immediate personal rights, the opposite of the method suggested by Dr. Lindley of Los Angeles, at the last meeting of the State Medical Society—that of castrating all male criminals for the extirpation of the criminals—might be adopted, this being the removal of the ovaries of every intemperate woman; there would be one advantage over the method of Dr. Lindley, in this: there would be no chance for a mistake. As the old French detective proverb went, when they were in

search of a criminal, "Get hold of the woman, and you will soon catch the man." According to Dr. Lindley's plan, the wrong man might be operated on; but as no intemperate woman can carry a child for nine months, while she is in a state of inebriety, without affecting the child, and as in the choice of sexual selection some otherwise very good men are so terribly careless, I feel that, were it practicable, this would be the best way to extirpate the class. This, however, cannot be done. But there is something that can be done: intemperate women should not be allowed under any circumstances to suckle children. A child would run much less risk, in the first place, by being raised by hand; and, in the next place, its future welfare would not be jeopardized either physically or morally.

In this connection I cannot help mentioning the grievous injury inflicted on children who are put out to wet nurses, by the parents' furnishing beers and liquors to the nurse that she may give a more copious supply of milk. As observed by Griesinger, insanity or mental conditions are formed in their germ at very remote periods from the time that the actual disease appears,* the generally supposed real causes being only the precipitating or determining causes. Failure in being able to provide is generally in a popular or legal sense limited to the question of a sufficiency of food and clothing to keep body and soul together. The State should recognize this failure in a broader sense. The father of a family may be able enough through his labor to provide ample food and clothing, but too poor to provide proper air. The child may live, but so warped physically or mentally or morally that it were better dead. Food and clothing are not the only necessities by any means. They may be like the last meal of a condemned man—sufficient to give him strength to mount the scaffold. The State should recognize fully the effects of foul air on the children, and make it a necessity that they should have fresh air. To this end it should assume the charge of these children. The Spartans, as well as the Indians of Southern California, took charge of *all* the children, thereby assuring the community that they should suffer neither through want nor self-indulgence, to the evident benefit of their physical and moral welfare. Our civilized communities should certainly have charge of the children of those unable or unfit to care or provide for them. We do not treat the domestic animals so thoughtlessly. A horseman would be shocked to see a thoroughbred colt in a foul and unventilated barn, or feeding on deteriorating food. His instincts for the welfare of his loved animal would even probably induce him to pay double his price, if required, to save a noble creature from losing that physique, intelligence, courage, and endurance that belong to him, and to keep him from degrading into an old hack or common horse, just as philanthropists of old devoted all their earnings and fortune to the purchase of Christian captives from the Algerine corsairs. The same spirit cannot all be dead. Our philanthropists and statesmen should fully and thoroughly comprehend the dangers and situation of these children, who, in the long run, will otherwise only grow up to be the *chair a canon* for our charitable or penal institutions later on. In taking charge of these children, it should be the aim of the State, not only, as unfortunately it is done now in unavoidable cases, to provide a charity home or mere resting place, but it should use its endeavors toward their physical, mental, and

*Griesinger, Ment. Path. Wood's Med. Lib., 1882.

moral education, as it does to its soldiers, from whom it expects future service. They should not be treated or made to feel as paupers, but as children only receiving their dues and from whom the State expects future recompense, just as the future horse in time will repay his keeper and trainer for all his kindness and care, as depicted in the winning horses of Ben Hur in the chariot race, where former kindness, good treatment, and training show good results. All this is not as Utopian as it is barbarous, cruel, and unchristian to neglect it. Where a gentle, weak woman could have guided the child aright under proper hygienic surroundings, we, in after life, turn the world upside down with swarms of detectives, at a tremendous expense, to hunt down the same being who, through unhygienic surroundings, has been converted into a vicious, determined criminal, that the majesty of the law may be vindicated.

We might better begin early, and, by surrounding the little helpless human being whom a cruel destiny has intrusted to keeping that is not of its own choosing, with better hygiene, better precept, and better example, vindicate the majesty of our enlightenment, civilization, manliness, and Christianity. These poor children never know either childish innocence or childish joys; for them there are not in after life those memories of childhood to soften and make them better, for they have had no childhood; they have prematurely aged in every sense, and the struggle for life, in all its bitterness, has been pressed like a full cup to their helpless little lips when scarce out of infancy. No wonder that the low quarters of our great cities swarm with multitudes of prostitutes scarce out of childhood, and that a brutal stupefaction has in them overcome all moral sense—a moral sense that might be said to be stifled at birth, for it requires a pure and uncontaminated atmosphere for this to thrive—something which the poor child has never enjoyed.

As observed in relation to the interpolation of various branches of science in their effect in obscuring from our view many of the simple truths of medicine, and the suggestion that we retrace our steps to spots where we know a sound foundation exists, so we may well remark to our kindred profession, they of the cloth, that if they were to have less theology and more practical, Christian common-sense, it would be better for the ends that they profess to wish to reach. It is not beyond their province, as the Mosaic law is full of examples. If the great Master was not above realizing that the welfare of his chosen people greatly depended on their physical condition, his followers should not consider it beneath them to follow his example; if the Mosaic teachings could notice even such trifles as the need of the proper aeration of the excreta of the multitude crossing the desert by the aid of the dry, powdered earth, our present shepherds should not be slow in recognizing the same facts, but how much more urgent by reason of our greater density and stability of population. The pulpit, like medicine, is losing much of its usefulness in rhetorical flourishes and figures of speech. When the great Master was asked the road to salvation, he pointed neither to shelves of theological lore nor to a collection of tracts on the ethics and ceremonies of religion: his answer was of few words.

The road to health is equally as simple. Hufeland pointed out what might be boiled down to a very few words: Breathe in a pure, equable climate; don't worry; and don't eat or drink more than you need. Conditions in the air that favored free ventilation v

requisites with Hufeland, Sydenham, Rush, and those of that class who may be said to be canonized and sanctified in the heart of our profession.

The space of this paper will not permit a discussion of the mechanical means. The literature on the subject is ample. Billings, Leeds, Eassie, and the hygienic works of Buck and Parker, are about complete on the subject. The enlarged edition of the lecture delivered by Leeds in Philadelphia is a short treatise devoted to the elucidation of one system of ventilation.

Some six years ago, while preparing a lecture on ventilation which was to be delivered before a meeting of the Teachers' Institute at San Diego, I prepared a small wood and tin framed house, with tin chimneys and glass sides and roof, which I used during the lecture. This was done on the Leeds system, with the aid of small lamps for fires and different lengths of lighted tapers to represent persons—manufacturing different atmospheres that were introduced into the house. This gave me such a good opinion of the system, that I afterwards incorporated it in a residence I built, and have every reason to be well pleased with it.

Before closing, it would be well to suggest that ventilation is not by any means always health, or even life. An intelligent supervision and understanding are here absolutely necessary. The four Judges and thirty-six persons who died of putrid fever contracted at the Old Bailey, were those who sat in the best ventilated part of the room, *but right in the track of the foul air as it was making its exit from the room.* Here ventilation, by its unintelligent observance, made deaths. These are the cases already mentioned as quoted from Sir John Pringle by Guy. Hartley quotes an apartment in a London house which was all right unless a fire was lit in the fireplace, which then ventilated the room. On investigation, it was found that the suction caused the filtering of air through a side wall, and that in contact with this wall there was an old dust bin, which accounted for the bad odors in the room as soon as the fire caused a current up the chimney.* So that evidently great care must be exercised over the source of the ventilation.

Aside from the above, it must not be overlooked that a whole locality, or even a city, may at times be so imperfectly ventilated as to be dangerous to life. Considering the extent of the broad canopy of the heavens and the miles of extent of atmospheric air, this may sound hypothetical and impossible, but it has nevertheless occurred.

In the second week of December, 1873, the city of London was visited by one of the densest fogs it had ever experienced. The free escape of the smoke and the proper diffusion of gases were so materially interfered with, that all the emanations from the thousands of smokestacks, chimneys, and its millions of lungs and all other sources of effluvia, were necessarily prevented from being dissipated, and were retained either in the houses or on respiratory levels.

The result of this condition is well seen in the Registrar-General's report, which shows that this state of the metropolitan atmosphere was not only the means of causing an enormous death-rate, but was also the means of producing a large number of premature labors as well, for the returns gave, for the week ending December 20th, one hundred and eight more births than the average number, and seven hundred and eighty more deaths than there had been for any one week in the previous ten years, after making all due allowance for the increase of population.

* Hartley. Air in its Relations to Life.

That it was the atmospheric condition that induced these morbid changes may well be believed, from the fact that from the London "Times" of the 11th and 12th of that month (the fog occurred on the 9th and 10th) we have an account of the doings of the "Smithfield Club Cattle Show," then in operation. We there learn that the show was interfered with by the sickness and mortality among the animals, many of whom were only saved by being hurriedly sent out into the uncontaminated air of the country. What foul air will do can well be surmised when the Registrar-General's report shows that the mortality of the week above mentioned far exceeded the mortality of the cholera week in the fall of 1866.

A proper realization of the fact that man was not built so that he should respire about twenty times per minute for amusement or luxury is evidently the last thing that strikes the laity. How far in different directions this total disregard of what nature has intended has affected us injuriously is not appreciated, any more than does our profession realize the harm that results from our attributing therapeutic effects to agents here or there, when the results are purely to be attained by a strict attention to the condition of the first and main element of the Hippocratic trilogy—air. This is well exemplified on the Italian Riviera, where the north German or Russian comes for *the climate alone*, but is so utterly indifferent to the quality of the air that he breathes, that, by the means of the box stove of the fatherland and the liberal use of caulking material industriously inserted wherever a crevice might allow the ingress of a little fresh air, he converts as nearly as possible the condition of the air of his apartment to that of the air he left behind near the far northern Baltic shores.*

With a proper appreciation of the many propositions set forth in this paper, we would have far less to contend with against quackery, as, by a better realization of the causes of disease, the laity would be lifted out of the narrow and contracted limits they now occupy in their belief in the wonderful efficacy of this or that drug, or in their insane worship of the many "isms" that disgrace the field of medicine, and which have nothing but the ignorance of the otherwise better informed laity for a stable foundation. The subject is one of the deepest interest to all, but one that the patriot, the philanthropist, and the statesman cannot neglect, for it has been said that the race which has the strongest vitality and the longest resistance to decay and death must in the end become dominant.†

The day may not be far distant when the State may need that its citizens shall all have healthy physiques. Without being unnecessarily alarmists, we cannot wholly shut our eyes to the fact that to the west there exist a horde of semi-barbarians, numerically infinitely superior to our nation, who live in a far less productive country, and who are lately making rapid progress in all that is advantageous in European civilization, and who are also fast adopting all the recent advances in the art and systems of warfare. Like to the ancient Briton, we have called these *outré-mer* barbarians to our shores, and have made them acquainted with the greater fertility of our fields, our more genial climate and richer mineral resources, and our more desirable food supplies. We have been obliged to resort to law enactments and diplomacy already, to curb

* Bennet. Pulmonary Consumption.

† Richardson. Diseases of Modern Life.

the migratory impetus that all this knowledge has caused. Diplomatic fencing generally precedes that of the sword: it may be a long or a short interval, but the latter extreme is reached sooner or later. England has Australia, South Africa, and her immense Canadian possessions as a resort for her superfluous population; Germany, France, and Italy have not so great an excess beyond their power to support but that it imperceptibly filters into the United States, to become incorporated as part of our population; but China does not amalgamate, nor has she a locality for her overflow. So that not only as philanthropists and as Christians do we owe something in the shape of fostering care to our poorer brother, but as statesmen we must realize that the poorer brother is really the strength and supporter of the nation, and that in time of need he is its real protector.

As a remedy to all of the above possible evils, which are not alone probable, but are even now actual, daily occurrences, I would suggest a little more attention to matters of practical importance when a house is being constructed. If one tenth of the attention that is paid to the proper *outer* appearance, as to the disposition of gables, windows, gimcracks, and gingerbread work, or to the devising of bewildering and blinding fantastically colored windows, were given to placing the house in a proper sanitary condition as regards ventilation, mankind, society, and the State would all be the gainers. As it is, however, most persons, knowing very little about ventilation or its benefits, or of the risks they and theirs run through unventilation, but little attention is paid to it, and necessarily and naturally no importance whatever is paid to the matter.

Many people foolishly imagine that, because they open their rooms to the air for a few hours daily—when the winds, dust, rain, or outside temperature does not interfere with their doing so—that they have complied with all the requirements demanded by health or by the body. The proper time to ventilate is when you are at home, and especially when the process of reparation are most active—this is when you are asleep. Then, again, the laity, by an erroneous conclusion they have somehow arrived at, have formed and cultivated the habit of carefully and hermetically housing the very classes that need all the benefits of ventilation the most—these being the young and very aged. The latter, especially, should be in well-ventilated apartments, especially if any young children are with them.

Very few of our school houses are built or constructed with any view to ventilation, except *outside of school hours*. During the time that the children are in school, ventilation has to take "pot-luck" chances on an occasional opening door. I have, at times, entered the room in school houses that have cost as much as \$35,000, *half an hour* after the departure of the children, and although the windows were opened *after school*, the offensive odor peculiar to animal effluvia was still very disagreeably present. And yet the School Boards of the city thought that they had well done their duty by the children and the citizens. The children with headaches and other derangements arising from poor ventilation that I have individually treated, show but too well the effects of a foul air. The architect did make a *pretense* at ventilation, but that was all that was really accomplished.

~~that~~ All public buildings, of whatsoever sort or for whatsoever purpose, ~~should~~ only be constructed under strict inspection, and after the approval of the plans by a Board of competent sanitarians, composed of men

skilled in sanitary construction and engineering. The slipshod way in which these affairs are now managed is unworthy of the nineteenth century, and of a nation that should set a better example. The schools above mentioned are but nurture beds for neurotics, and are as deficient, so far as their sanitary condition is concerned, as any building can be that is only ventilated when it is unoccupied. A building which is only ventilated at those times, can in no sense be termed even passably perfect in any hygienic sense.

One great drawback to properly ventilating buildings I find to consist in the fact that they are constructed with an utter disregard to the requirements of climate, either in the material used, exposure of building, and the attempt to mix up the means of lighting with those of ventilation—something which should be entirely separate. This utter disregard of climatic conditions cannot always be made with impunity, and I have seen various and ineffectual attempts to introduce some very primitive and impractical system of ventilation into public buildings some years *after* they had been in use; one of these being a Masonic hall and the other a court house. Had these been school houses, the utter want of ventilation would not have been noticed, as teachers are supposed to be in a normal condition if with headache and a backache, under any and all circumstances, and children very seldom complain; but in the event of any sickness, epidemic, or the critical period of existence in a girl's life, the want of ventilation, from which the system has suffered, is then very plainly discernible.

I would make it as a suggestion that no building for public use, be it church, theater, hall, school, or hospital, nor administrative buildings for State, county, or municipality, be constructed or allowed to be constructed until its plans are submitted to and approved by a competent Board of sanitarians. I would even go further—as it is a well-recognized principle that cities require “lungs,” or parks, and commons, not in the suburbs, or outskirts, but in their most populous places—that no one should be allowed to plat out a town, designed for the congregation of a population, without said plat being also submitted to a like competent sanitary Board for examination and approval—as the relation of the lay of the streets to compass points and the prevailing winds, and the proper laying out of alleys, and parks, width of streets, as demanded by the latitude, and regulation as to height of buildings, and all matters that affect the health and length of life of its future dwellers. It seems as if it were the height of absurdity for a city to have to contend with the work of marplots and botches for centuries to come, when it should not have been allowed to start wrong in the first instance. The simple fact that we are a republic, is no reason for such irrational and primitive methods. Old European cities and towns are now at great expense undergoing the haphazard and marplot work of the middle ages, and it would seem as if we might at least profit by their example, and not perpetuate tenth or sixteenth century blunders, which, I am very sorry to have to remark, is precisely what we are doing.

The State, county, and municipality must first set a hygienic example on these matters, and the supervision must further be carried into the construction of all public buildings. From these starting points the good work will reach the villa and the cottage, and we will then be better morally as well as physically. These are matters that should occupy the minds of our statesmen. It will lessen the needs and expense of penitentiaries, reformatories, jails, asylums, and hospita-

SANITARY LAWS OF THE STATE OF CALIFORNIA.

POLITICAL CODE.

PART III—Of the Government of the State.

TITLE VII—General Police of the State.

CHAPTER I.

IMMIGRATION.

- SECTION 2952. Lepers, lazarettos for.
2955. Examination and disposition of lepers. Fees.
2959. Fines and penalties, lien on vessel.
2960. Other commutations.
2962. Certain vessels exempted.
2966. Ex officio Commissioners.
2968. Bond of Commissioner.

SEC. 2952. It shall not be lawful for lepers, or persons affected with leprosy or elephantiasis, to live in ordinary intercourse with the population of this State; but all such persons shall be compelled to inhabit such lazarettos or lepers' quarters as may be assigned to them by the Board of Supervisors of the city or county in which they shall be domiciled or settled; and the Board of Supervisors are vested with power and are required to make all necessary provisions for the separation, detention, and care of lepers, or persons affected with leprosy or elephantiasis, settled or domiciled in their respective cities or counties. The Superintendent or manager of all lepers' quarters under this chapter shall forward quarterly statements, showing the name, age, sex, and birthplace of each leper in such quarter, to the Secretary of State, who shall keep a proper record of such matters for the information of the public. [In effect March 25, 1876.]

SEC. 2955. The Commissioner of Immigration must satisfy himself whether or not any person who shall arrive in this State by vessel from any foreign port or place is a leper, or affected with the disease known as leprosy or elephantiasis, before such person shall mingle with the population of this State. For the purpose of ascertaining said fact the Commissioner is vested with the power and authority to detain such persons on board any such vessel so arriving, and to assign the vessel to a berth or anchorage separate and apart from other vessels, and at a safe and suitable distance from the shore, if in his judgment it shall be necessary, until such fact can be fully ascertained by him. Such fact shall be ascertained by personal inspection and examination of each and every person on board such vessel; and the Commissioner of Immigration is authorized, empowered, and required to make such personal inspection and examination of all persons so arriving by any such vessel, the same to be made at such berth or anchorage as he shall, in his

discretion, assign to such vessel for that purpose, and shall be made before the landing of any person thereupon. All of such persons who, upon inspection and examination, are found to be lepers, or affected with the disease known as leprosy or elephantiasis, shall be taken in charge by the Commissioner of Immigration, and placed in a suitable lazaretto, or lepers' quarters, to be provided or designated by the Board of Supervisors, whenever necessary for that purpose, as hereinbefore prescribed, and there detained and properly cared for, separate and apart from the general population of this State, so long as they, the said lepers, shall elect to remain in the State of California, or until they shall have recovered from said disease, and no longer. All of such persons as shall be found to be free from said disease shall be allowed to depart and go at their will, without unnecessary detention or delay, and shall be entitled to receive a certificate of the fact of their freedom from said disease from said Commissioner. For his services in making such examination and inspection the Commissioner of Immigration shall demand and collect from the master, owner, or consignee of such vessel the sum of seventy cents, in United States gold or silver coin, for each and every person so examined or inspected, which sum, except four thousand dollars a year and expenses of office, shall, when required for such purpose, be paid by the Commissioner into the State Treasury, to be used in the maintenance, when necessary, of such lazarettos or lepers' quarters as shall be constructed under this law. Any master, owner, or consignee of any vessel arriving at any port of this State who shall fail or refuse to perform, or permit the performance of, any of the acts or things required by this chapter, or to take and occupy with his vessel the berth or anchorage assigned for the same by the Commissioner, pending the examination and inspection herein provided for, or who shall permit or allow any person arriving in such vessel to depart therefrom, and to communicate, mingle, or associate with the population of this State, or any part thereof, until after such examination and inspection by the Commissioner is had, shall, for every such act or omission, forfeit to the Commissioner of Immigration the sum of one thousand dollars in United States gold coin, to be sued for and recovered by suit in any Court of competent jurisdiction, and to be applied in like manner with the fees. And any master, owner, or consignee of any such vessel so arriving, who shall refuse or neglect to pay, or cause to be paid to said Commissioner, the fee of seventy cents for the examination and inspection of each and every person so arriving in such vessel, shall forfeit to said Commissioner, for each case, the sum of five hundred dollars in United States gold coin, to be recovered and applied as above. And the Commissioner shall have a lien upon the vessel, and the same shall be sold to pay any judgment recovered under this Act. The Commissioner shall have the power to call in the aid of the Sheriff and all police authorities to assist in enforcing this law. And he may appoint one or more deputies under him, who shall be vested with all the powers of the Commissioner, and may discharge his official duties when required by him. The Commissioner of Immigration must prepare and transmit to the Secretary of State quarterly statements, certified under his hand and seal, showing the name, age, sex, birthplace, and present residence of every leper, or person affected with leprosy or elephantiasis, examined or inspected by him, as well as any other infor-

mation or fact touching the character and prevalence of said disease within his knowledge. [In effect March 25, 1876.]

SEC. 2959. For all fines and penalties imposed by this chapter upon any master or commander, owner or consignee, for any omission, neglect, or refusal to perform any act or duty required by this chapter, such vessel is liable; and the amount of such fines or penalties are a lien upon such vessel, and have priority over all other liens, except those for seamen's wages, bottomry bonds, and respondentia. Such penalties and fines may be sued for and recovered in a civil action, with costs of suit, by the Commissioner, or by his authorized attorney, in the name of the people of the State of California, in any Court having cognizance thereof, and when recovered must, after deducting the expenses, be paid into the State Treasury.

SEC. 2960. The Commissioner may compound or commute, for any of the penalties or fines, upon such terms as he thinks proper, and at the end of every month report to the Controller of State the reasons and causes of such compounding or commutation. * * *

SEC. 2962. Masters of vessels arriving at any of the ports of this State from any port in this State, or from Oregon or Washington Territory, are exempt from making the statement required by this chapter, when the vessels in which they arrive have not taken on board at their port of departure, or at any intermediate port, any alien passenger, to be landed at the port of arrival; and masters of vessels arriving from Panama are also exempted from the provisions of this chapter, when they have not landed, or are not about to land, passengers who took their departure from ports other than the port of New York; and in no case must such master be required to report any passenger other than way passengers taken on board between the port of New York and the port of arrival in this State.

SEC. 2963. The Consuls, Ministers, agents, or other public functionaries of any foreign Government, arriving in this State in their official capacity, are exempt from the provisions of this chapter.

SEC. 2964. The Commissioner of Immigration must approve all bonds and administer all oaths required in the discharge of his duties. Whenever it appears that the master or commander of any vessel has not made a full and correct report, as provided by this chapter, the Commissioner must inquire into the same, and for that purpose may require the attendance of witnesses before him in the same manner as Notaries Public may in civil cases. Testimony so taken may be read as evidence on the trial of any action commenced for any penalty or forfeiture accruing under the provisions of this chapter in the same manner, and with like effect, as if regularly taken in such action.

SEC. 2966. In all the ports in this State, other than San Francisco, the Mayor or chief municipal officer at such port, or if there be none such, then the Sheriff of that county, is ex officio Commissioner of Immigration for such port, and in carrying out the provisions of this chapter, and has all the powers and is liable to all the penalties provided herein.

SEC. 2968. The Commissioner of Immigration for the port of San Francisco must execute an official bond in the sum of twenty-five hundred dollars. [In effect March 25, 1876.]

CHAPTER II.

PRESERVATION OF PUBLIC HEALTH.

ARTICLE I. STATE BOARD OF HEALTH.

- II. VACCINE AGENT.
- III. HEALTH AND QUARANTINE REGULATIONS FOR THE CITY AND HARBOR OF SAN FRANCISCO.
- IV. HEALTH REGULATIONS FOR THE CITY OF SACRAMENTO.
- V. HEALTH AND QUARANTINE OF OTHER CITIES, TOWNS, AND HARBORS.

ARTICLE I.

STATE BOARD OF HEALTH.

- SECTION 2978. Who constitute the State Board.
2979. Duties of.
2980. To report as to the effect of intoxicating liquors.
2981. Meetings, and election of officers.
2982. Duties of Secretary. Salary of Secretary.
2983. Expenses of, limited.

SEC. 2978. The State Board of Health consists of seven physicians—two of the city of Sacramento, and five from other portions of the State—appointed by the Governor for the term of four years.

SEC. 2979. The State Board of Health must place themselves in communication with the local Boards of Health, hospitals, asylums, and public institutions throughout the State, and take cognizance of the interests of health and life among the citizens generally. They must make sanitary investigations and inquiries respecting the causes of disease, especially of epidemics, the source of mortality, and the effects of localities, employments, conditions, and circumstances on the public health, and gather such information in respect to these matters as they may deem proper for diffusion among the people. They may devise some scheme whereby medical and vital statistics of sanitary value can be obtained, and act as an advisory Board to the State in all hygienic and medical matters, especially such as relate to the location, construction, sewerage, and administration of prisons, hospitals, asylums, and other public institutions. They must, at each biennial session of the Legislature, make a report, with such suggestions as to legislative action as they deem proper.

SEC. 2980. The Board must examine into and report what, in their best judgment, is the effect of the use of intoxicating liquor as a beverage upon the industry, prosperity, happiness, health, and lives of the citizens of the State; also, what legislation, if any, is necessary in the premises.

SEC. 2981. The Board must meet at the capital of the State, at least once in every three months. They must elect from their own number a President and a Permanent Secretary; the latter must reside at the capital, and is their executive officer. No member, except the Secretary, receives any compensation; but the actual traveling expenses of the members, while engaged in the duties of the Board, are allowed, and paid out of the General Fund.

SEC. 2982. The Secretary must superintend the work and perform such other duties as the Board may require. He must furnish the Legislature, when in session, such information cognate to this chapter as, from time to time, may be necessary. An annual salary of twenty-five hundred dollars, and his office and other necessary expenses in-

curred in the performance of his duties, must be paid to him in the same manner as salaries of State officers are paid.

Sec. 2983. The expenses of the Board, including the salary of the Secretary, must not exceed four thousand dollars per annum.

ARTICLE II.

VACCINE AGENT.

- SECTION 2993. Agent to obtain genuine vaccine matter.
2994. Compensation and duty of.

Sec. 2993. The Vaccine Agent must obtain a supply of the genuine vaccine matter, and preserve the same for the use and benefit of the citizens of the State. [Basis of article: Stats. 1852, p. 138.]

Sec. 2994. Such agent must furnish genuine vaccine matter, approved by the State Board of Health, to any regular practicing physician in good standing in his profession in this State. He may charge and receive for every parcel of vaccine matter furnished, the sum of five dollars, which is full compensation for his services and expenses.

ARTICLE III.

HEALTH AND QUARANTINE REGULATIONS FOR THE CITY AND HARBOR OF SAN FRANCISCO.

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3033. Vacation of infected and dangerous houses.
3034. Physicians to report infectious diseases.
3035. Board of Health to have charge of cemetery.

Sec. 3004. The quarantine grounds of the bay and harbor of San Francisco are at the anchorage of Sausalito.

Sec. 3005. The Board of Health of the City and County of San Francisco consists of the Mayor of the city and county and four physicians in good standing, residing in the City and County of San Francisco, appointed by the Governor, and holding their offices for the term of five years.

Sec. 3006. The Mayor is ex officio President of the Board. The

Board must meet monthly, and at such other times as the President may direct. In the absence of the President, the Board may elect a Chairman, who is clothed with the same powers as the President.

SEC. 3007. The Health Officer for the City and County and Port of San Francisco is elected by the Board of Health, and holds office at its pleasure. He must be a graduate of some medical college, in good standing, and must reside within the city limits of San Francisco.

SEC. 3008. The Health Officer is the executive officer of the Health Department, and he may, in his discretion, cause the removal to a hospital of any and all persons within the limits of the City and County of San Francisco, infected with variola. [In effect March 9, 1878.]

SEC. 3009. The Board of Health must appoint a Quarantine Officer, who shall be a physician in good standing; a Secretary, one Assistant Secretary, six Health Inspectors, one Market Inspector, and one Messenger, whose duties must be fixed by the Board of Health. They must also appoint one Superintendent Physician, one Resident Physician, one Steward, one Matron, one Apothecary, two Visiting Physicians, two Visiting Surgeons, as officers of the City and County Hospital, in and for the City and County of San Francisco; one each of said Visiting Physicians and Surgeons to be nominated by the Faculty of the Medical Department of the University of California, and one each of said Visiting Physicians and Surgeons to be nominated by the Medical College of the Pacific. Said Board may also appoint one Engineer for the City and County Hospital. They may also appoint one Superintendent, one Resident Physician, one Matron, and such other employés as are now authorized by law, to be employed in and for the Almshouse of said city and county. They shall also have power to appoint and prescribe the duties of one City Physician and one Assistant City Physician, who shall be designated as Police Surgeons, and whose duty it shall be to make all autopsies required of them by the Coroner of said city and county. And said Board is also empowered to appoint such employés and such medical attendants as they may deem necessary in the Health Department, and in all the various institutions which are by law placed under their supervision; and the compensation of such employés and medical attendants shall be fixed by the Board of Health. The appointing power aforesaid is vested solely in said Board of Health, and said Board shall have power to prescribe the duties of said appointees, and shall not remove the same without just cause. The heads of departments appointed by the Board of Health, to wit: the Health Officer, Resident Physician of City and County Hospital, and Superintendent of Almshouse, shall not be removed except by a concurrence of four members of said Board of Health.

SEC. 3010. The following annual salaries are hereby allowed to the officers of the Health Department, and such other officers and employés as are mentioned in the preceding section, viz.: Health Officer, three thousand dollars; Quarantine Officer, eighteen hundred dollars; Secretary, two thousand one hundred dollars; Assistant Secretary, one thousand two hundred dollars; Health Inspectors, one thousand two hundred dollars each; Market Inspector, one thousand two hundred dollars; Messenger, nine hundred dollars; City Physician, one thousand eight hundred dollars; Assistant City Physician, one thousand two hundred dollars; all of said salaries, together with the salaries of such other employés of the Health Department as may be appointed by the Board

of Health, must be paid in equal monthly installments out of the General Fund of the City and County of San Francisco, in the same manner as the salaries of the other officers of said city and county are paid. There shall be paid to the officers and employes of the City and County Hospital and Almshouse the following annual salaries, viz.: Superintendent Physician, two thousand four hundred dollars; Resident Physician, one thousand five hundred dollars; Steward, one thousand five hundred dollars; Matron, seven hundred and twenty dollars; one Apothecary, one thousand two hundred dollars; Visiting Physicians and Surgeons, one thousand two hundred dollars each; Engineer, one thousand two hundred dollars; Superintendent of Almshouse, two thousand four hundred dollars; Matron of Almshouse, seven hundred and twenty dollars; and all other medical attendants and employes of said institutions are to be paid such sums as may be authorized by law, and as provided in the preceding section; all to be paid in equal monthly installments, out of the Hospital and Almshouse Fund of said City and County of San Francisco; and the Auditor of said city and county is hereby directed to audit the said demands, payable out of the funds aforesaid, upon the approval of the same by the said Board of Health, and also to audit all demands for salaries of medical attendants and employes appointed by the Board of Health in accordance with this chapter, for the amounts authorized to be paid, when the same shall have been approved by said Board; and the Treasurer of said city and county must pay said demands out of said funds. The Clerk of the Mayor of the City and County of San Francisco shall not receive any compensation as Clerk of the Board of Health. [In effect March 9, 1878.]

SEC. 3011. The Health Officer, in addition to his salary, receives such sums for the necessary expenses of his office as the Board of Health may direct, and the Auditor must audit and the Treasurer pay such sums out of the General Fund. The Board of Supervisors must provide proper offices for the Health Department.

SEC. 3012. The Board of Health have general supervision of all matters appertaining to the sanitary condition of the city and county, including the City and County Hospital, the County Jail, Almshouse, Industrial School, and all public health institutions provided by the City and County of San Francisco; and may adopt such orders and regulations, and appoint or discharge such medical attendants and employes as to them seems best to promote the public welfare; and may appoint as many Health Inspectors as they deem necessary in time of epidemics.

SEC. 3013. Shipmasters bringing vessels into the harbor of San Francisco, and masters, owners, or consignees having vessels in the harbor which have on board any cases of Asiatic cholera, smallpox, yellow, typhus, or ship fever, must report the same, in writing, to the Quarantine Officer before landing any passengers, casting anchor, or coming to any wharf, or as soon thereafter as they, or either of them, become aware of the existence of either of the diseases on board of their vessels. [In effect March 9, 1878.]

SEC. 3014. No Captain or other officer in command of any vessel sailing under a register arriving at the port of San Francisco, nor any owner, consignee, agent, or other person, having charge of such vessel, must, under a penalty of not less than one hundred dollars, nor more

than one thousand dollars, land, or permit to be landed, any freight, passengers, or other persons from such vessel until he has reported to the Quarantine Officer, presented his bill of health, and received a permit from that officer to land freight, passengers, or other persons. [In effect March 9, 1878.]

SEC. 3015. Every pilot who conducts into the port of San Francisco any vessel subject to quarantine, or examination by the Quarantine Officer, must—

First—Bring the vessel no nearer the city than is allowed by law;

Second—Prevent any person from leaving and any communication being made with the vessel under his charge until the Quarantine Officer has boarded her and given the necessary orders and directions;

Third—Be vigilant in preventing any violation of the quarantine laws, and report without delay all such violations that come to his knowledge to the Quarantine Officer;

Fourth—Present the master of the vessel with a printed copy of the quarantine laws, unless he has one;

Fifth—If the vessel is subject to quarantine, by reason of infection, place at the mast-head a small yellow flag. [In effect March 9, 1878.]

SEC. 3016. Every master of a vessel subject to quarantine or visitation by the Quarantine Officer, arriving in the port of San Francisco, who refuses or neglects, either—

First—To proceed with and anchor his vessel at the place assigned for quarantine, when legally directed so to do; or,

Second—To submit his vessel, cargo, and passengers to the Quarantine Officer, and furnish all necessary information, to enable that officer to determine what quarantine or other regulations they ought, respectively, to be subject; or,

Third—To report all cases of disease and of deaths occurring on his vessel, and to comply with all the sanitary regulations of the bay and harbor—

Is liable in the sum of five hundred dollars for every such neglect or refusal. [In effect March 9, 1878.]

SEC. 3017. All vessels arriving off the port of San Francisco from ports which have been legally declared infected ports, and all vessels arriving from ports where there is prevailing, at the time of their departure, any contagious, infectious, or pestilential diseases, or vessels with decaying cargoes, or which have unusually foul or offensive holds, are subject to quarantine, and must be, by the master, owner, pilot, or consignee, reported to the Quarantine Officer without delay. No such vessel must cross a right line drawn from Meiggs Wharf to Alcatraz Island until the Quarantine Officer has boarded her and given the order required by law. [In effect March 9, 1878.]

SEC. 3018. The Quarantine Officer must board every vessel subject to quarantine or visitation by him, immediately on her arrival, make such examination and inspection of vessel, books, papers, or cargo, or of persons on board, under oath, as he may judge expedient, and determine whether the vessel should be ordered to quarantine; and, if so, the period of quarantine. [In effect March 9, 1878.]

SEC. 3019. No Captain or other officer in command of any passenger-carrying vessel of more than one hundred and fifty tons burden, nor of any vessel of more than one hundred and fifty tons burden having passengers on board, nor any owner, consignee, or other person having

charge of such vessel or vessels, must, under a penalty of not less than one hundred dollars, nor more than one thousand dollars, land or permit to be landed any passenger from the vessel, until he has presented his bill of health to the Quarantine Officer, and received a permit from that officer to land such passengers, except in such cases as the Quarantine Officer deems it safe to give the permit before seeing the bill of health. [In effect March 9, 1878.]

SEC. 3020. The following fees may be collected by the Quarantine Officer: For giving a permit to land freight or passengers, or both, from any sailing vessel of less than five hundred tons burden from any port out of this State, two dollars and fifty cents; over five hundred and under one thousand tons burden, five dollars; each additional one thousand tons burden, or fraction thereof, an additional two dollars and fifty cents. For steam vessels propelled in whole or in part by steam, of one thousand tons burden or less, five dollars, and two dollars and fifty cents for each additional one thousand tons burden, or fraction thereof; but vessels not propelled in whole or in part by steam, sailing to and from any port or ports of the Pacific States of the United States or Territories, and whaling vessels entering the harbor of San Francisco, are excepted from the provisions of this section. [In effect March 9, 1878.]

SEC. 3021. The Board of Health may enforce compulsory vaccination on passengers in infected ships, or coming from infected ports.

SEC. 3022. The Board of Health may provide suitable hospitals, to be situated at or near Sausalito, and furnish and supply the same with nurses and attachés, and remove thereto all persons afflicted with cholera, smallpox, yellow, typhus, or ship fever.

SEC. 3023. The Health Officer must keep a record of all births, deaths, and interments occurring in the City and County of San Francisco. Such records, when filled, must be deposited in the office of the County Recorder, and produced when required for public inspection.

SEC. 3024. Physicians and midwives must, on or before the fourth day of each month, make a return to the Health Officer of all births, deaths, and the number of still-born children occurring in their practice during the preceding month. In the absence of such attendants, the parent must make such report within thirty days after the birth of the child. Such returns must be made in accordance with rules adopted, and upon blanks furnished by the Board of Health. [In effect March 9, 1878.]

SEC. 3025. No person shall deposit in any cemetery, or inter in the City and County of San Francisco, any human body without first having obtained and filed with the Health Officer a certificate signed by a physician or midwife, or a Coroner, setting forth, as near as possible, the name, age, color, sex, place of birth, occupation, date, locality, and cause of death of the deceased, and obtain from such Health Officer a permit; nor shall any human body be removed or disinterred without the permit of the Health Officer, or by order of the Coroner. Physicians, when deaths occur in their practice, must give the certificate herein mentioned. Hereafter it shall be the duty of the Assistant City Physician or Police Surgeons to perform all autopsies which may be required in the Coroner's office of the City and County of San Francisco, all such autopsies being made without charge to the city. It shall be the duty of the Health Officer to see that the dead body of a human being is not allowed to remain in any public receiving vault for a longer

period than five days. At the expiration of that time he shall cause the body to be placed in a vault or niche constructed of brick, stone, or iron, and hermetically sealed. It shall also be his duty to require all persons having in charge the digging of graves and burial of the dead, to see that the body of no human being who had reached ten years of age shall be interred in a grave less than six feet deep, or if under the age of ten years, the grave to be not less than five feet deep. [In effect March 9, 1878.]

SEC. 3026. Superintendents of cemeteries within the boundaries of the City and County of San Francisco must return to the Health Officer, on each Monday, the names of all persons interred or deposited within their respective cemeteries for the preceding week. [In effect March 9, 1878.]

SEC. 3027. No Superintendent of a cemetery can remove or cause to be removed, disinter or cause to be disinterred, any corpse that has been deposited in the cemetery, without a permit from the Health Officer, or by order of the Coroner.

SEC. 3028. Whenever a nuisance shall exist on the property of any non-resident, or any property, the owner or owners of which cannot be found by the Health Inspector after diligent search, or on the property of any owner or owners upon whom due notice may have been served, and who shall for three days refuse or neglect to abate the same, or on any city property, it shall be the duty of the Board of Health to cause the said nuisance to be at once removed or abated, and to draw upon the General Fund for such sums as may be required for its removal or abatement, not to exceed two hundred dollars; *provided*, that whenever a larger expenditure is found necessary to be made for the removal or suppression of any nuisance, the Board of Supervisors of said city and county shall, upon the written application of the Board of Health, by ordinance, appropriate, allow, and order paid out of the General Fund, such sum or sums as may be necessary for that purpose; and the Auditor shall audit, and the Treasurer shall pay, all appropriations of money made in pursuance of this section, in the same manner as is now provided by law for auditing and paying demands upon the treasury; said sum or sums so paid shall become a lien on the property from which said nuisance has been removed or abated, in pursuance of this section, and may be recovered by an action against such property. And it shall be the duty of the City and County Attorney to foreclose all such liens in the proper Court, in the name of and for the benefit of said city and county, and when the property is sold, enough of the proceeds shall be paid into the City and County Treasury to satisfy the lien and costs; and the overplus, if any there be, shall be paid to the owner of the property, if he be known, and if not, then into the Court for his use when ascertained. The Board of Health is hereby vested with power to act upon, define, determine, and adjudge what shall constitute a nuisance in said city and county, and to require the same to be abated in a summary manner. Any person who maintains, permits, or allows a nuisance to exist upon his or her property or premises after the same has been determined by said Board to be a nuisance, and after notice to remove the same has been served upon such person, is guilty of a misdemeanor, and shall be punished accordingly; and each day of such existence, after notice, shall be deemed a separate and distinct offense; and it is the duty of the Health Officer to prosecute all persons

guilty of violating this law by continuous prosecutions until the same is abated and removed. [In effect March 9, 1878.]

SEC. 3029. The Health Officer must keep in his office a book in which he must make an entry of all fees collected by him. He must pay all fees collected to the City and County Treasurer weekly, to the credit of the General Fund.

SEC. 3030. The Health Officer must execute an official bond, to be approved by the Board of Health, in the sum of ten thousand dollars.

SEC. 3031. Any member of the Board of Health, Health Officer, or Quarantine Officer, or Secretary, or Assistant Secretary of the Health Department, is empowered to administer oaths on business connected with that department. [In effect March 9, 1878.]

SEC. 3032. Whenever any cause of action arises under any of the provisions of this chapter, suit may be maintained therein in the name of the Health Officer, in any District Court of this State.

SEC. 3033. Whenever it shall be certified to the Board of Health, by the Health Officer, that any building or part thereof is unfit for human habitation, by reason of its being so infected with disease as to be likely to cause sickness among the occupants, or, by reason of its want of repair, has become dangerous to life, said Board may issue an order and cause the same to be affixed conspicuously on the building, or part thereof, and to be personally served upon the owner, agent, or lessee, if the same can be found in this State, requiring all persons therein to vacate such building, for the reasons to be stated therein as aforesaid. Such building, or part thereof, shall, within ten days thereafter, be vacated; or within such shorter time (not less than twenty-four hours), as in said notice may be specified; but said Board, if it shall become satisfied that the danger from said house, or part thereof, has ceased to exist, may revoke said order, and it shall thenceforward become inoperative. [In effect March 9, 1878.]

SEC. 3034. *First*—Every physician in the city and county shall report to the Health Officer, in writing, every patient he shall have laboring under Asiatic cholera, variola, diphtheria, or scarlatina, immediately thereafter, and report to the same officer every case of death from such disease immediately after it shall have occurred.

Second—Every householder in said city and county shall forthwith report in writing, to the Health Officer, the name of every person boarding, or inmate, at his or her house, whom he or she shall have reason to believe sick of cholera or smallpox, and any deaths occurring at his or her house from such disease. [In effect March 9, 1878.]

SEC. 3035. The Board of Health shall have entire charge of the City Cemetery, and shall employ a Superintendent, at a salary of seventy-five dollars per month, the same to be paid as the salaries of other employes are paid. [In effect March 9, 1878.]

ARTICLE IV.

HEALTH REGULATIONS FOR THE CITY OF SACRAMENTO.

- SECTION 3042. Board of Health, who and how appointed.
3043. Term of office.
3044. Powers of the Board of Health.
3045. Pesthouses, how located and conducted.
3046. Death records.
3047. Enforcement of regulations. Health Officer.
3048. Expenses, how paid.
3049. Compensation, how paid.

SEC. 3042. The Board of Trustees of the city of Sacramento may establish by ordinance a Board of Health therefor, to consist of five practicing physicians, graduates of a medical college of recognized respectability; and the President of the Board of Trustees is ex officio President of the Board.

SEC. 3043. The members of the Board hold their offices at the pleasure of the appointing power.

SEC. 3044. The Board of Health of the city of Sacramento has a general supervision of all the matters appertaining to the sanitary condition of the city, and may make such rules and regulations in relation thereto as are not inconsistent with law.

SEC. 3045. The Board of Health may locate and establish pesthouses, and cause to be removed thereto, and kept, any person having a contagious or infectious disease; may discontinue or remove the same, and make such rules and regulations regarding the conduct of the same as are needful.

SEC. 3046. The Board of Health must exercise a general supervision over the death records of the city of Sacramento, and may adopt such forms and regulations for the use and government of physicians, undertakers, and Superintendents of Cemeteries, as in their judgment may be best calculated to secure reliable statistics of the mortality in the city, and prevent the spread of disease.

SEC. 3047. The Board of Trustees of the city of Sacramento must, by ordinance or otherwise, provide for enforcing such orders and regulations as the Board of Health may from time to time adopt; and in times of epidemics, or when deemed necessary by the Board of Health, a Health Officer must be employed to enforce the laws in relation to the sanitary condition of the city.

SEC. 3048. All expenses necessarily incurred in carrying out the provisions of this article must be provided for by the Board of Trustees of the city of Sacramento, who may make appropriation therefor out of the Special Street Fund, if the same is sufficient; if not, they may by taxation provide a fund therefor.

SEC. 3049. The Board of Trustees must fix the compensation of the Board of Health and the Health Officer.

ARTICLE V.

HEALTH AND QUARANTINE OF OTHER CITIES, TOWNS, AND HARBORS.

- SECTION 3059. Boards of Supervisors may adopt Article III.
 3060. Boards of Supervisors may adopt Article IV.
 3061. Board of Health established in towns and cities.
 3062. May appoint Health Officer in lieu of Board.
 3063. Per capita or property tax, how levied.

SEC. 3059. The Board of Supervisors of any county in which there is a port of entry or harbor, for which there is not otherwise provided health and quarantine regulations, may by an ordinance adopt the whole or any part of the provisions of article three of this chapter, appoint a Board of Health, or Health Officer, locate quarantine grounds when necessary, and provide for the enforcement of health and quarantine regulations.

[Local adaptation of health and quarantine regulations, see Sec. 4046, Sub. 20.]

SEC. 3060. In like manner the Board of Supervisors of any county in which there is an unincorporated city or town, for which there is not otherwise provided a Board of Health, or health regulations in time of epidemics or the existence of contagious or infectious diseases, may by an ordinance adopt for such city or town, in whole or in part, the provisions of article four of this chapter, for some definite period of time, and appoint therefor a Board of Health.

SEC. 3061. It shall be the duty of the Board of Trustees, Council, or other corresponding Board, of every incorporated town and city of this State, to establish, by ordinance, a Board of Health for such town or city to consist of five persons, one of whom at least shall be a practicing physician and a graduate of some reputable school of medicine, and one, if practicable, a civil engineer. The members of the Board shall hold their offices at the pleasure of the appointing power. Every local Board of Health established in this State must:

First—Supervise all matters pertaining to the sanitary condition of their town or city, and make such rules and regulations relative thereto as are necessary and proper, and not contrary to law.

Second—Report to the Secretary of the State Board of Health, at Sacramento, at such times as the State Board of Health may require:

- (a) The sanitary condition of their locality.
- (b) The number of deaths, with the cause of each, as near as can be ascertained, within their jurisdiction, during the preceding month.
- (c) The presence of epidemic or other dangerous, contagious, or infectious disease, and such other matters, within their knowledge or jurisdiction, as the State Board may require.

The Trustees, Council, or other legislative Board, by whatever name known, of any incorporated city or town of this State may, by ordinance, adopt any portion of article three and article four of this chapter, or either of them, for some definite period of time, as may seem proper for the regulation of sanitary matters within their town or city. [In effect March 19, 1878.]

[This Act shall not extend to any incorporated city or town, or city and county, for which health regulations and [are?] provided by special statutes.

[Local adaptation of health laws, see Sec. 4046, Sub. 20; Sec. 4408, Sub. 18.]

[Section inapplicable to incorporated city, town, etc., for which health regulations provided by special statute, see Sec. 2 of Amendatory Acts in Stats. 1878, p. 59.]

SEC. 3062. The Board of Supervisors of each county must appoint, in each unincorporated city or town of five hundred or more inhabit-

ants, a Health Officer, who has all the duties and powers of the Board of Health and Health Officer, as specified in this and the two preceding articles. [In effect March 1, 1889, as amended.]

SEC. 3063. All necessary expenses of enforcing this article are charges against the counties, cities, or towns, respectively, for the payment of which the county, city, or town may levy a per capita tax of not exceeding three dollars, or a property tax of not exceeding one fourth of one per cent, yearly, until the same is paid.

SEC. 3064. The Board of Supervisors must fix the salary or compensation of Boards of Health or Health Officers, and provide for the expenses of enforcing the provisions of this article. If the Board of Supervisors or Board of Trustees, Council, or other corresponding Board of any incorporated town, neglect to provide a Board of Health or Health Officer by the first day of July, eighteen hundred and eighty-nine, the State Board of Health may direct the District Attorney of the county to begin an action against such Board of Supervisors, or Board of Trustees, or corresponding Board, to compel the performance of their duty, or may appoint a Board of Health, or Health Officer with the powers of a Board of Health, for such town or city, and the expenses of such Board of Health, or Health Officer, shall be a charge against the incorporated city or town for which such appointment shall be made; and when the appointment is made for unincorporated towns the expenses of the Board of Health, or Health Officer, are a charge against the county. [In effect March 1, 1889.]

CHAPTER III.

REGISTRY OF BIRTHS, MARRIAGES, AND DEATHS.

- SECTION 3074. Registry of marriages.
 3075. Registry of births.
 3076. Registry of deaths.
 3077. Reports to Recorder.
 3078. Same.
 3079. Duties of Recorder.
 3080. Report to the Secretary of State Board of Health.
 3081. Fees.
 3082. Penalties.
 3083. Printing and distribution of forms of register.

SEC. 3074. All persons who perform the marriage ceremony must keep a registry of the time of each marriage so celebrated, the residence, the names in full, the place of birth, the age of each party, and whether either party has ever been before married. [In effect March 16, 1878.]

SEC. 3075. All physicians and professional midwives must keep a registry of the time of each birth at which they assist professionally, the sex, race, and color of the child, and the names and residence of the parents.

SEC. 3076. Physicians who attend deceased persons in their last sickness, clergymen who officiate at a funeral, Coroners who hold inquests, sextons and undertakers who bury deceased persons, must each keep a registry of the name, age, residence, and time of death of such person. [Approved March 30th; in effect July 6, 1874.]

SEC. 3077. All persons registering marriages, births, or deaths, must

quarterly file with the County Recorder a certified copy of their register. All such certificates must specify, as near as may be ascertained, the name in full, age, occupation, term of residence in the city or county, birthplace, condition, whether single or married, widow, or widower, sex, race, color, last place of residence, and cause of death of all decedents. [In effect March 16, 1878.]

SEC. 3078. If at birth no physician or midwife attend, then the parents must make the report.

SEC. 3079. The Recorder must keep separate registers, to be known as the "Register of Marriages," the "Register of Births," and the "Register of Deaths," in which the marriages, births, and deaths certified to him must be numbered in the order in which they are reported to him. There must be stated in each register, in separate columns, properly headed, the various facts contained in the certificates, and the name and official or clerical position of the person making the report. The Recorder must carefully examine each report, and register the same marriage, birth, or death but once, although it may be reported by different persons. [In effect March 16, 1878.]

SEC. 3080. The County Recorder must, every three months, transmit to the Secretary of the State Board of Health, at Sacramento City, a certified abstract of the registers of births, marriages, and deaths, prepared in the manner prescribed in the instructions of the Secretary, and upon blanks to be furnished by him for that purpose.

SEC. 3081. County Recorders, in those counties where their compensation is by fees, shall be allowed by the Board of Supervisors a fee of not exceeding ten cents for each name reported, to be paid out of the General Fund of the county; and in those counties where their compensation is by a fixed salary, the duties in this chapter provided shall be performed without compensation other than such salary. [In effect March 16, 1878.]

SEC. 3082. Any person on whom a duty is imposed by this chapter who fails, neglects, or refuses to perform the same as herein required, is liable to a penalty of fifty dollars, to be recovered by the District Attorney of the proper county for the use of the General Fund of such county.

SEC. 3083. The Secretary of the State Board of Health must prepare blank forms of said registers for the State Printer, who must print as many copies as the said Secretary shall direct, and deliver the same to the Secretary of State, who shall forward the same, from time to time, and in such numbers as shall be directed by the Secretary first mentioned, to the County Recorders of the several counties, who must carefully keep and distribute the same to the persons in the county who are required to keep the registers and make the reports provided in this chapter. [In effect March 16, 1878.]

SEC. 3084. No person shall inter, cremate, or otherwise dispose of any human body, in any city, county, or city and county, without having first obtained a permit therefor. In incorporated cities, or counties, or cities and counties, the permit must be obtained from the person authorized to grant the same by any law, ordinance, or resolution passed for that purpose. But in the absence of such law, ordinance, or resolution, the permit must be obtained from either the Coroner, or Health Officer, Board of Health, or if the Coroner be absent, then from the Health Officer or Board of Health; and if there be no Board of Health or Health Officer, then from a Justice of the Peace. The person applying for a per-

mit must produce and file with the officer issuing the permit a certificate signed by a physician, or a Coroner, or two reputable citizens, setting forth as near as possible the name, age, color, place of birth, occupation, date, locality, and cause of death of deceased. And no permit shall be granted without the production of such certificate. Such permit must be filed with the County Recorder, and the person so filing is entitled to the compensation provided for in section three thousand and seventy-seven of this Code, but if any other registration of the death of the deceased shall have been made, the Recorder must record the name but once. [Approved February 25, 1889; in effect thirty days after.]

PART IV—Of the Government of Counties, Cities, and Towns.

TITLE II—The Government of Counties.

CHAPTER II.

THE BOARD OF SUPERVISORS.

ARTICLE II.

GENERAL PERMANENT POWERS.

SEC. 4046. The Boards of Supervisors, in their respective counties, have jurisdiction and power, under such limitations and restrictions, as are prescribed by law:

* * * * *

20. To adapt to the county the provisions in this Code for the preservation of the health of San Francisco or Sacramento, for such limited time as they may deem proper, and to provide for the expense thereof.

ADDITIONAL STATUTES OF CALIFORNIA.

CHAPTER CCXXIX.

An Act to provide for the grading of public alleys and the construction of sewers therein in the city of Sacramento.

[Approved March 21, 1868.]

SECTION 1. Whenever the Board of Trustees of the city of Sacramento shall deem it expedient to construct a sewer in any public alley, they may order such sewer to be constructed, after having published a notice of such intention in some daily newspaper printed in said city, for the period of ten days, unless the owners of more than one half in

extent of the land and lots bisected by such alley shall have made written objections thereto, and delivered the same to the Clerk of said Board of Trustees within the said period of ten days.

SEC. 2. If the owners, or their duly authorized agents, of more than one half in extent of the lands and lots in any block of land bisected by any such alley shall petition said Board of Trustees, in writing, to cause a sewer to be constructed through the same, the said Board of Trustees shall order the same to be done; or whenever the Board of Health of the city of Sacramento shall, by an order duly made and entered on their records, declare that it is necessary for the public health or cleanliness that a sewer should be constructed in any public alley in said city, and shall have delivered a certified copy of said order to the Board of Trustees, the said Board of Trustees shall order such sewer or sewers constructed, and proceed in the same manner as if said work had been petitioned for by the requisite number of property owners, as above. The cost of constructing that portion of all sewers that extend across streets, or that extends from the line of the block to the main sewer, shall be paid by the city out of the Special Street Fund.

CHAPTER CCCXXXIV.

An Act to authorize the establishment of a Board of Health in the city of Sacramento.

[Approved March 27, 1868.]

SECTION 1. The Board of Trustees of the city of Sacramento shall have power to establish, by ordinance, a Board of Health for the city of Sacramento. Said Board of Health shall consist of five practicing physicians, who shall each be graduates of a medical college of recognized respectability, and the President of the Board of Trustees shall be ex officio President of the Board of Health.

SEC. 2. The Board of Health shall have a general supervision of all matters appertaining to the sanitary condition of said city; and full powers are hereby given to said Board to adopt such measures and make such orders and regulations as at any time, in their opinion, the public safety may require, and not in contravention of any law; but such orders and regulations shall not take effect until approved by resolution or order of the Board of Trustees of said city.

SEC. 3. The Trustees of said city shall by ordinance provide, in such manner as to them shall seem best, for enforcing such orders and regulations as the Board of Health shall from time to time adopt.

SEC. 4. The Board of Health now recognized by an ordinance passed by the Trustees of said city, shall continue to perform the duties pertaining to their office until their successors are duly appointed and qualified.

SEC. 5. This Act shall take effect from and after its passage.

CHAPTER CCCXLVI.

An Act amendatory of and supplementary to an Act to authorize the establishment of a Board of Health in the city of Sacramento, approved March 27, 1868.

[In effect March 29, 1870.]

SECTION 1. The Board of Trustees of the city of Sacramento shall have power, and it is hereby made their duty, to establish by ordinance a Board of Health for the city of Sacramento. Said Board of Health shall consist of five practicing physicians, who shall each be graduates of a medical college of recognized respectability, and the President of the Board of Trustees shall be ex officio President of the Board of Health.

Sec. 2. The Board of Health of the city of Sacramento now recognized by the Board of Trustees shall have a general supervision of all matters appertaining to the sanitary condition of said city, and full powers are hereby given to said Board of Health over all questions of foul or defective drainage, and of the disinfecting and cleaning of streets, alleys, cellars, cesspools, or nuisances of any description, and of low places within the city limits calculated to receive and retain unhealthy deposits.

Sec. 3. The Board of Health shall exercise a general supervision over the death records of the city of Sacramento, and adopt such forms and regulations for the use and government of physicians, undertakers, and Superintendents of Cemeteries as in their judgment may be best calculated to secure reliable statistics of the mortality in said city and prevent the spread of disease.

Sec. 4. The Board of Trustees of the city of Sacramento shall, by ordinance or otherwise, provide for enforcing such orders and regulations as the Board of Health may from time to time adopt; and in times of epidemics, or when deemed necessary by the Board of Health, a Health Officer shall be employed to enforce the laws in relation to the sanitary condition of said city.

Sec. 5. All expenses necessarily incurred in carrying out the provisions of this Act shall be provided for by the Board of Trustees of the city of Sacramento, who are hereby authorized and directed to make appropriation therefor out of the special fund called the Street Fund in the Act entitled an Act to amend an Act to incorporate the city of Sacramento, approved April twenty-fifth, eighteen hundred and sixty-three, approved March eighteenth, eighteen hundred and seventy.

CHAPTER CCCXL.

An Act to confer further powers on the Board of Trustees of the city of Sacramento.

[Approved March 31, 1876.]

SECTION 1. The Board of Trustees of the city of Sacramento are hereby authorized and empowered, and it is made their duty, to require all lots, and portions of lots, in the city of Sacramento, north of R

Street, west of Fourteenth Street, south of that portion of the north levee lying east of Sixth Street, south of that portion of I Street lying west of Sixth Street and east of the Sacramento River, which are covered with stagnant water a portion of the year, to be filled up to such level or grade as will prevent the same from being so covered.

SEC. 2. Whenever said Board shall declare a lot or portion of lot to be included within the provisions of section one herein, they shall cause to be entered in their minutes of proceedings an order, which may be in substance in the following form: The Board of Trustees of the city of Sacramento hereby determine that (here describe the real estate) is covered with stagnant water portions of the year. It is therefore ordered that the owner or owners thereof fill up the same to a proper level, to be fixed by the City Surveyor, or that the same be filled up at his or their expense. The owner of any lot, or portion thereof, included in such order, may at any time prior to awarding a contract for doing the work, as provided in section three herein, present and file with the Board a protest against the filling up of such lot as contemplated by the order, on the ground that such lot, or portion thereof, is not, during any portion of the year, covered with stagnant water. And if, on a hearing of such protest, the Board finds the same to be true, they shall, by their order, exclude such lot, or portion of a lot, from their original order; but if the Board finds the protest to be not true, they shall proceed as if no protest had been presented and filed. [Amendment of March 30, 1878.]

* * * * *
[Other sections relate to fixing grade, awarding contracts, assessment and payment of costs.]

CHAPTER CCXXXII.

[Stats. of 1875-6, p. 306.]

SECTION 4. No person, master, captain, or conductor in charge of any boat, vessel, railroad car, or public or private conveyance, shall receive for transportation, or shall transport, the body of any person who has died within the limits of the City and County of San Francisco, without obtaining a permit for the same from the Health Officer, which permit must accompany the body to its destination; and no person, master, captain, or conductor, as aforesaid, shall bring into or transport through the said city and county the dead body of any person, unless it be accompanied with a certificate from some proper authority of the place whence it came, stating name, age, sex, and cause of death, which certificate shall be filed at the Health Office; *provided*, that in no case shall the body of any person who died of a contagious disease be brought to the city within one year of the day of death.

CHAPTER DCLXXIII.

An Act to protect public health from infection caused by exhumation and removal of the remains of deceased persons.

[In force May 1, 1878.]

SECTION 1. It shall be unlawful to disinter or exhume from a grave, vault, or other burial place, the body or remains of any deceased person, unless the person or persons so doing shall first obtain, from the Board of Health, Health Officer, Mayor, or other head of the municipal government of the city, town, or city and county, where the same are deposited, a permit for said purpose. Nor shall such body or remains disinterred, exhumed, or taken from any grave, vault, or other place of burial or deposit, be removed or transported in or through the streets or highways of any city, town, or city and county, unless the person or persons removing or transporting such body or remains shall first obtain from the Board of Health, or Health Officer (if such Board or officer there be), and from the Mayor or other head of the municipal government of the city or town, or city and county, a permit, in writing, so to remove or transport such body or remains in and through such streets and highways.

SEC. 2. Permits to disinter or exhume the bodies or remains of deceased persons, as in the last section, may be granted, provided the person applying therefor shall produce a certificate from the Coroner, the physician who attended such deceased person, or other physician in good standing cognizant of the facts, which certificate shall state the cause of death, or disease of which the person died, and also the age and sex of such deceased; *and provided further*, that the body or remains of deceased shall be inclosed in a metallic case or coffin, sealed in such manner as to prevent, as far as practicable, any noxious or offensive odor or effluvia escaping therefrom, and that such case or coffin contains the body or remains of but one person, except where infant children, of the same parent or parents, or parent and children, are contained in such case or coffin. And the permit shall contain the above conditions, and the words: "Permit to remove and transport the body of ———, age———, sex———," and the name, age, and sex shall be written therein. The officer of the municipal government of the city or town, or city and county, granting such permit, shall require to be paid for each permit the sum of ten dollars, to be kept as a separate fund by the Treasurer, and which shall be used in defraying expenses of and in respect to such permits, and for the inspection of the metallic cases, coffins, and inclosing boxes herein required; and an account of such moneys shall be embraced in the accounts and statements of the Treasurer having the custody thereof.

SEC. 3. Any person or persons who shall disinter, exhume, or remove, or cause to be disinterred, exhumed, or removed, from a grave, vault, or other receptacle or burial place, the body or remains of a deceased person without a permit therefor, shall be guilty of a misdemeanor, and be punished by a fine not less than fifty nor more than five hundred dollars, or by imprisonment in the County Jail for not less than thirty days nor more than six months, or by both such fine and imprisonment. Nor shall it be lawful to receive such body, bones, or remains on any

vehicle, car, barge, boat, ship, steamship, steamboat, or vessel for transportation in or from this State, unless the permit to transport the same is first received, and is retained in evidence by the owner, driver, agent, superintendent, or master of the vehicle, car, or vessel.

SEC. 4. Any person or persons who shall move or transport, or cause to be moved or transported, on or through the streets or highways of any city or town, or city and county, of this State, the body or remains of a deceased person, which shall have been disinterred or exhumed without a permit, as described in section two of this Act, shall be guilty of a misdemeanor, and be punishable as provided in section three of this Act.

SEC. 5. Any person who shall give information to secure the conviction of any person or persons for the violation of the provisions of this Act, shall be entitled to receive the sum of twenty-five dollars, to be paid from the fund collected from fines imposed and accruing under this Act.

SEC. 6. Nothing in this Act contained shall be taken to apply to the removal of the remains of deceased persons from one place of interment to another cemetery or place of interment within this State; *provided*, that no permit shall be issued for the disinterment or removal of any body unless such body has been buried for one year or more, without the written consent of the Mayor, Chairman of the Board of Supervisors, or City Council of any municipality of the State. [As amended and passed, March, 1889.]

CHAPTER CCXLVII.

An Act authorizing the Mayor and Common Council of the City of San José to establish and provide for the maintenance of a Board of Health.

[Approved March 16, 1878.]

SECTION 1. The Mayor and Common Council of the city of San José may establish, by ordinance, a Board of Health therefor, to consist of five regular practicing physicians, graduates of a medical college of recognized respectability.

SEC. 2. The members of the Board hold their offices at the pleasure of the appointing power.

SEC. 3. The Board of Health of the city of San José has a general supervision of all the matters appertaining to the sanitary condition of the city, and make such rules and regulations in relation thereto as are not inconsistent with law.

SEC. 4. The Mayor is *ex officio* President of the Board. The Board must meet monthly, and at such other times as the President may direct. In the absence of the President, the Board may elect a Chairman, who is clothed with the same power as the President.

SEC. 5. The Health Officer of the city of San José is elected by the Board of Health, and holds office at its pleasure. He must be a graduate of some medical college in good standing, and must reside within the city of San José.

SEC. 6. The Health Officer may perform all acts which Quarantine Officers are usually authorized to perform, and he is the executive officer of the Board of Health.

SEC. 7. The Board of Health may locate and establish pesthouses, and cause to be removed thereto, and kept, any person having a contagious or infectious disease; may discontinue or remove the same, and make such rules and regulations regarding the conduct of the same as are needful.

SEC. 8. The Board of Health may exercise a general supervision over the death records of the city of San José, and may adopt such forms and regulations for the use and governance of physicians, and undertakers, and Superintendent of Cemeteries, as in their judgment may be best calculated to secure reliable statistics of the mortality in the city, and prevent the spread of disease.

SEC. 9. The Mayor and Common Council of the city of San José must, by ordinance or otherwise, provide for enforcing such orders and regulations as the Board of Health may from time to time adopt.

SEC. 10. All expenses necessarily incurred in carrying out the provisions of this article must be provided for by the Mayor and Common Council of the city of San José, who may make appropriation therefor out of the Special Street Fund, if the same is sufficient; if not, they may, by taxation, provide a fund therefor.

SEC. 11. The Mayor and Common Council must fix the compensation of the Board of Health and Health Officer.

CHAPTER CCCXXV.

An Act to provide and maintain a system of sewerage in the city of Petaluma, and to take private lands therefor.

[In effect March 23, 1878.]

SECTION 1. The Board of Trustees of the city of Petaluma are hereby empowered and directed to have surveyed, laid out, established, constructed, and maintained, a general system of sewerage for the city of Petaluma, and for that purpose shall employ a competent engineer to survey, map, and plat such contemplated sewerage, showing the location, length, and size of such sewers, which survey, map, and plat, when completed, with his recommendations, he shall file with the Clerk of the Board of Trustees; upon the filing of which, the Board of Trustees shall give at least ten days' notice, by publication in some newspaper published in said city, of the time and place when they will consider said report and hear objections, and may modify and correct the same; and so modified and corrected shall, by resolution, adopt the same, or any part thereof, as the official map of sewers. The compensation of such engineer, and such assistants as may be required, shall be determined by said Board, and shall be paid by warrant on the Sewer Fund of said city.

SEC. 2. In order to provide for the necessary and proper drainage and sewerage of the city of Petaluma, the Board of Trustees thereof are hereby authorized to procure the right of way by purchase, or condemnation, for such main and lateral sewers or drains as they may deem proper for the sewerage and drainage of said city; such rights of way may be thus secured through lands within the corporate limits, and

also when required through lands adjacent to and without said city, under the provisions of part three, title seventeen, of the Code of Civil Procedure, for the purpose of condemning such lands, or the right of way through the same, to the use of the city for public drains or sewers; *provided*, that the benefits resulting to the land remaining or adjoining may be offset against the value of the land actually taken, as also against any damages resulting to such adjacent land from such improvement.

SEC. 3. The Board of Trustees of the city of Petaluma, in addition to the taxes now authorized by law, are hereby authorized and empowered to levy annually an additional tax on all real and personal property of said city, not to exceed twenty cents on each one hundred dollars, to be levied and collected at the same time and in the same manner as other city taxes, and to be known as the sewer tax, which shall constitute a separate fund, to be known as the "Sewer Fund."

SEC. 4. It shall be the duty of the Board of Trustees to construct, maintain, and keep in repair, according to the general system of sewerage adopted, such sewers as from time to time they may deem necessary for the health and welfare of said city.

SEC. 5. All proceedings, contracts, and work in relation to the construction of sewers under this Act, shall be governed in all respects by the provisions of the city charter in relation to street work, except that no petition of property owners shall be necessary. The Board must not, without the consent of owners of adjacent property, change the width of any sidewalk, after said sidewalk has been constructed, for a period of five years.

CHAPTER CCCIV.

An Act to promote the sanitary condition of towns and villages in Fresno County.

[Approved March 20, 1873.]

SECTION 1. It is unlawful for any person, being a resident within any town or village, incorporated or unincorporated, which contains ten or more dwellings, to have or allow on his, her, or their premises, or permit to accumulate upon the half of any street or alley contiguous thereto, any filth or rubbish, or have any deposit of excrement or other filth upon either, or to permit such premises to become in any manner filthy or in an unhealthy condition.

SEC. 2. Upon the application of any resident of any such town or village, if unincorporated, the Board of Supervisors of the county wherein the same is situate, shall define and place of record in their minutes the limits and boundaries thereof; said Board shall appoint one of the Constables of the township wherein such town or village is situate, and notify him of his appointment, to carry out the provisions of this Act as hereinafter specified.

SEC. 3. It is the duty of such Constable, when so appointed, to inspect the premises of every street, alley, or vacant lot within the limits of the town or village for which he is appointed at least twice during each month, upon the first and third Mondays thereof, and in case that he find that any premises, or the half of any streets or alleys, contigu-

ous thereto, have upon them any filth or rubbish, or any deposit of excrement or other filth, he shall give written notice to the owner or occupant of such premises to remove the same; and in case the same be not removed within three days thereafter, he shall cause it to be done and such premises thoroughly cleansed in the manner directed by the Health Officer of the county, if there be one, at the expense of the owner or occupant, including his fee of two dollars for each premises so cleansed by him; and it is the duty of such Health Officer to give written directions to such Constable as to how he shall cleanse premises, and such Health Officer shall, at the request of any citizen, examine any premises and require such Constable to cleanse the same and see that such cleansing is properly and efficiently done.

SEC. 4. If said expenses and fee be not paid on presentation of his itemized account therefor, the Constable may maintain action therefor, including a reasonable attorney's fee, to be fixed by the Court; and from the execution in such action no property of the defendant shall be exempt.

SEC. 5. If the Constable cannot find the owner or occupant of any premises within the limits of the town for personal service of the notice hereinbefore mentioned, such notice may be served by posting the same upon some conspicuous place on such premises.

SEC. 6. For every failure or refusal of the Constable or Health Officer to perform any of their duties under this Act, they shall, respectively, forfeit fifty dollars, to be recovered by action, one half to be paid to any person bringing such action, and the other half into the County Indigent Sick Fund. The sureties of the Constable shall be liable for such penalty; but the Health Officer shall not, in the performance of his duties, be required to go beyond the limits of the town wherein he resides.

SEC. 7. This Act shall take effect immediately, and shall apply only to the county of Fresno.

CHAPTER CCCLXXIV.

An Act to establish a Board of Health for the county of Tulare.

[In effect March 26, 1878.]

SECTION 1. There shall be a Board of Health in and for the county of Tulare, consisting of three practical physicians, who are graduates of some medical college in good standing, two of whom, at least, shall be residents of the city of Visalia; and said Board shall serve without compensation.

SEC. 2. The Board of Supervisors of the county of Tulare, at their next regular meeting in May, eighteen hundred and seventy-eight, shall appoint a Board of Health for said county, one of whom shall hold office for the term of one year thereafter, and one for two years, and the other for three years, to be designated by said Board of Supervisors; and annually thereafter, at their regular meeting in May, said Board of Supervisors shall appoint a member of said Board of Health, who shall hold office for the term of three years; and all vacancies shall be filled by said Board of Supervisors by appointment.

SEC. 3. The Board of Health shall have general supervision of all matters appertaining to the sanitary condition of said county, and full powers are hereby given to said Board to adopt such measures and make such orders and regulations as at any time, in their opinion, the public safety may require, and not in contravention of any law. They shall have power to declare any place where they shall have reason to believe a pestilential, contagious, or infectious disease is probably prevailing to an alarming extent to be an infected place, and to fix the period for so considering such place, notice of which shall be given by posting notices or by publication, as said Board shall deem proper.

SEC. 4. All the necessary expenses incurred by said Board of Health for printing, stationery, etc., shall be allowed by the Board of Supervisors and ordered paid out of the General Fund of said county.

SEC. 5. The Board of Health may appoint a clerk, who shall receive a reasonable compensation for his services, not exceeding two hundred dollars per annum, to be fixed and allowed by the Board of Supervisors and payable out of the General Fund of said county.

SENATE CONCURRENT RESOLUTION No. 25.

Relative to appointment of the members of the State Board of Health to consider the subject of a hospital for consumptives.

[Adopted April, 1880.]

Resolved, the Assembly concurring, That a committee of three members of the State Board of Health, to be designated by the Governor, be and are hereby appointed to consider the subject of a State Hospital for Consumptives, to determine a suitable locality, to investigate the probable cost, to devise a general scheme for the construction and management of such an institution, and to report the results of their investigations to the Legislature at its next session.

ASSEMBLY JOINT RESOLUTION No. 7.

Relative to the procuring of a quarantine depot.

[Adopted April 10, 1880.]

WHEREAS, The city of San Francisco, by reason of its commercial relations with Asiatic ports, is alarmingly exposed to the introduction of contagious diseases; and whereas, the port of San Francisco has no place where passengers and cargo can be landed and the necessary sanitary precautions adopted; therefore, be it

Resolved by the Assembly, the Senate concurring, That our Senators and Representatives are hereby requested to use their utmost endeavors to receive from the General Government a portion of one of the islands in the bay of San Francisco for use as a quarantine depot.

Resolved, That the Governor be requested to transmit a copy of these resolutions to each of our Senators and Representatives in Congress.

ASSEMBLY CONCURRENT RESOLUTION No. 23.

Relative to the establishment of a quarantine station on Angel Island.

[Adopted 1880.]

WHEREAS, It is necessary that some convenient place should be provided for quarantine grounds in the harbor of San Francisco, and near the city; and whereas, the State Board of Health, after the most careful examination, are unable to find any suitable place in said harbor, except the northern end of Angel Island, and near the eastern side thereof; therefore,

Resolved by the Assembly, the Senate concurring, That our Senators be instructed, and our Representatives in Congress be requested, to procure a strip of land jutting out into the bay at the northeastern part of Angel Island, in the harbor of San Francisco, consisting of not more than two acres, from the Government of the United States, as a quarantine station for San Francisco, and, if necessary, to procure the necessary legislation for that purpose.

Resolved, That a copy of these resolutions be forwarded by the Governor to each of our Senators and Representatives in Congress.

CHAPTER XC.

An Act to prevent the introduction of contagious or infectious diseases into the State of California.

[In effect March 15, 1883.]

SECTION 1. Whenever there shall exist, in the opinion of the State Board of Health, imminent danger of the introduction of contagious or infectious diseases into the State of California, by means of railroad communication with other States, the State Board of Health are authorized, and it is hereby made their duty, to make or cause to be made, by an accredited agent or inspector, an inspection of all railroad cars coming into the State at such point, or between such points within the State limits as may be selected for the purpose.

SEC. 2. Such inspection shall be made, where practicable, during the ordinary detention of a train at a station, or while in transit between stations, and in all cases shall be so conducted as to occasion the least possible detention or interruption of travel or inconvenience to the railroad companies, so far as consistent with the purposes of this Act.

SEC. 3. Should the discovery be made of the existence among the passengers of any case or cases of dangerous, contagious, or infectious disease, the said Board of Health, or their agent or inspector, under rules and conditions prescribed by them as being applicable to the nature of the disease, shall have power to cause the side-tracking or detention of any car or cars so infected, to isolate the sick, or remove them to a suitable place for treatment, to establish a suitable refuge station, to cause the passengers and materials in such infected car to be subjected to disinfection and cleansing before proceeding farther into the State,

and, in the case of smallpox, to offer free vaccination to all persons exposed in any car or at any station.

SEC. 4. The sum of five hundred dollars is hereby appropriated out of any moneys in the treasury not otherwise appropriated, to be expended solely for the purposes of this Act, and all expenditures herein authorized shall be specified in an itemized account to be presented to the State Board of Examiners, and paid as other demands on the treasury are paid; *provided*, that in no case shall the sum expended exceed that herein specially appropriated for the purpose.

CHAPTER XIV.

An Act to grant to Boards of Health, or Health Officers, in cities and counties, the power to regulate the plumbing and drainage of buildings, and to provide for the registration of plumbers.

[In force March 3, 1885.]

SECTION 1. It shall not be lawful for any person to carry on business, or labor as a master or journeyman plumber, in any incorporated city, or in any city and county, in this State, until he shall have obtained from the Board of Health of said city, or city and county, a license authorizing him to carry on business, or labor as such mechanic. A license so to do shall be issued only after a satisfactory examination by the Board of each applicant upon his qualifications to conduct such business, or to so labor. All applications for license, and all licenses issued, shall state the name in full, age, nativity, and place of residence of the applicant or person so licensed. It shall be the duty of the Secretary of each Board of Health to keep a record of all such licenses issued, together with an alphabetical index of the same. [As amended March 9, 1887.]

SEC. 2. A list of all licensed plumbers shall be published in the yearly report of the Health Officer or Board of Health. [As amended March 9, 1887.]

SEC. 3. The drainage and plumbing of all buildings, both public and private, hereafter erected in any city, or city and county, shall be executed in accordance with plans previously approved in writing by the Board of Health of said city, or city and county, and suitable drawings and description of said drainage and plumbing shall, in each case, be submitted to the Board of Health, and placed on file in the Health Office. The said Board of Health is also authorized to receive and place on file drawings and descriptions of the drainage and plumbing of buildings erected prior to the passage of this Act.

SEC. 4. The Board of Supervisors, or other city, or city and county officials, whose duty it is to make appropriation and tax levies for general purposes of such city, or city and county, shall make the necessary appropriations and tax levies, and shall insert the same in the yearly tax levy, to provide for carrying out the provisions of this Act. Such appropriations and tax levy shall be made at the same time and in the same manner as appropriations and tax levies are made for other city, or city and county purposes.

SEC. 5. In any city, or city and county, where there is under existing laws a Health Officer but no Board of Health, such Health Officer shall perform all the duties required by this Act of the Board of Health, until a Board of Health shall be created; and in any city, or city and county, where there is no Health Officer nor Board of Health, the Board of Supervisors, or City Council, or other municipal legislative Board or body, shall create a Board of Health, who shall perform all the duties required by this Act of the Board of Health or Health Officer.

SEC. 6. Any Superior Court, or Judge thereof, shall have power to restrain, by injunction, the continuance of work to be done upon or about buildings or premises where the provisions of this Act have not been complied with, and no undertaking shall be required as a condition to the granting or issuing of such injunction, or by reason thereof.

SEC. 7. Any person violating any of the provisions of this Act shall be deemed guilty of a misdemeanor; and upon conviction shall be punished accordingly.

CHAPTER XXXVIII.

An Act to provide for analyzing the minerals, mineral waters, and other liquids, and the medicinal plants of the State of California, and of foods and drugs, to prevent the adulteration of the same.

[Approved March 9, 1885.]

SECTION 1. The Governor of the State of California shall appoint one of the professors of the State University of California of sufficient competence, knowledge, skill, and experience, as State Analyst, whose duty it shall be to analyze all articles of food, drugs, medicines, medicinal plants, minerals and mineral waters, and other liquids or solids which shall be manufactured, sold, or used within this State, when submitted to him, as hereinafter provided.

SEC. 2. The State Board of Health and Vital Statistics, or medical officers of health of any city, town, or of any city and county, or county, may, at the cost of their respective Boards or corporations, purchase a sample of any food, drugs, medicines, medicinal plants, mineral waters, or other liquids offered for sale in any town, village, or city in this State, and submit the same to the State Analyst, as hereinafter provided; and said Analyst shall, upon receiving such article duly submitted to him, forthwith analyze the same, and give a certified certificate to the Secretary of the State Board of Health submitting the same, wherein he shall fully specify the result of the analysis; and the certificate of the State Analyst shall be held in all the Courts of this State as prima facie evidence of the properties of the articles analyzed by him.

SEC. 3. Any person desiring an analysis of any food, drug, medicine, medicinal plant, soil, mineral water, or other liquid, shall submit the same to the Secretary of the State Board of Health, together with a written statement of the circumstances under which he procured the article to be analyzed, which statement must, if required by him, be verified by oath; and it shall be the duty of the Secretary of the State

Board of Health to transmit the same to the State Analyst, the expenses thereof to be defrayed by the said Board.

SEC. 4. The State Analyst shall report to the State Board of Health the number of all the articles analyzed, and shall specify the results thereof to said Board annually, with a full statement of all the articles analyzed, and by whom submitted.

SEC. 5. The State Board of Health may submit to the State Analyst any samples of food, drugs, medicines, medicinal plants, mineral waters, or other liquids, for analysis, as hereinbefore provided.

SEC. 6. It shall be competent for the Mineralogist of the State of California to submit to the State Analyst any minerals of which he desires an analysis to be made; *provided*, that the cost of the same shall be defrayed by the Mineralogical Bureau.

SEC. 7. The Board of State Viticultural Commissioners shall have the same privileges as are provided for the State Board of Health under this Act, with respect to samples of wines and grape spirits, and of all liquids and compounds in imitation thereof; and any person or persons desiring analyses of such products shall submit the same to the Secretary of the said Board of State Viticultural Commissioners, and the same shall be transmitted to the State Analyst, in the manner prescribed in section three of this Act. The analyses shall be made, and the certificates of the State Analyst shall be forwarded to the Secretary of the said Board of State Viticultural Commissioners, and shall have the same force and effect as provided for in section two of this Act, with respect to analyses made for the State Board of Health.

CHAPTER XXII.

An Act to appropriate money to prevent the introduction of contagious and infectious diseases.

[In force March 4, 1887.]

SECTION 1. The sum of ten thousand dollars is hereby appropriated out of the General Fund in the State Treasury, to be expended by the State Board of Health, under the direction of the Governor, for the prevention of the introduction of any contagious and infectious diseases into the State. The claims for such expenditures must be audited by the Board of Examiners; except that when a contingency arises, which, in the opinion of the Governor, demands the immediate use of money, the Controller may draw his warrant, upon the order of the Governor, in such sums, not exceeding one thousand dollars, as he may direct, in the name of the State Board of Health; *provided*, that an account must be thereafter filed with the Board of Examiners, and audited by it, and transmitted to the Controller, showing the manner of such expenditure.

CHAPTER XXIV.

An Act to encourage and provide for a general vaccination in the State of California.

[In force February 20, 1889.]

SECTION 1. The Trustees of the several common school districts in this State, and Boards of common school government in the several cities and towns, are directed to exclude from the benefits of the common schools therein any child or any person who has not been vaccinated, until such time when said child or person shall be successfully vaccinated; *provided*, that any practicing and licensed physician may certify that the child or person has used due diligence and cannot be vaccinated so as to produce a successful vaccination, whereupon such child or person shall be excepted from the operation of this Act.

SEC. 2. The Trustees or local Boards, annually, or at such special times to be stated by the State Board of Health, must give at least ten days' notice, by posting a notice in two or more public or conspicuous places within their jurisdiction, that provision has been made for the vaccination of any child of suitable age who may desire to attend the common schools, and whose parents or guardians are pecuniarily or otherwise unable to procure vaccination for such child.

SEC. 3. The said Trustees or Board must, within sixty days after the passage of this Act, and every year thereafter, ascertain the number of children or persons in their respective school districts, or subdivision of the city school government, being of an age suitable to attend common schools, who have not been already vaccinated, and make a list of the names of all such children or persons. It also shall be the duty of said Trustees or Board to provide, for the vaccination of all such children or persons in their respective school districts, a good and reliable vaccine virus wherewith to vaccinate such children or persons who have not been vaccinated. And when so vaccinated to give a certificate of vaccination, which certificate shall be evidence thereof for the purpose of complying with section one.

SEC. 4. The necessary expenses incurred by the provisions of this Act shall be paid out of the common school moneys apportioned to the district, city, or town. And if there be not sufficient money, the Trustees must notify the Board of Supervisors of the amount of money necessary, and the Board must, at the time of levying the county tax, levy a tax upon the taxable property in the district sufficient to raise the amount needed. The rate of taxation is ascertained by deducting fifteen per cent for delinquencies from the assessment, and the rate must be based upon the remainder. The tax so levied must be computed and entered upon the assessment roll by the County Auditor, and collected at the same time and in the same manner as State and county taxes, and when collected shall be paid into the county treasury for the use of the district.

SEC. 5. The Trustees of the several school districts of this State are hereby required to include in their annual report, and report to the Secretary of the State Board of Health, the number in their several districts between the ages of five and seventeen years who are vaccinated and the number unvaccinated.

CHAPTER V.

An Act to provide for the proper sanitary condition of factories and workshops, and the preservation of the health of the employes.

[In force February 6, 1889.]

SECTION 1. Every factory, workshop, mercantile or other establishment, in which five or more persons are employed, shall be kept in a cleanly state and free from the effluvia arising from any drain, privy, or other nuisance, and shall be provided, within reasonable access, with a sufficient number of water-closets or privies for the use of the persons employed therein. Whenever the persons employed as aforesaid are of different sexes, a sufficient number of separate and distinct water-closets or privies shall be provided for the use of each sex, which shall be plainly so designated, and no person shall be allowed to use any water-closet or privy assigned to persons of the other sex.

SEC. 2. Every factory or workshop in which five or more persons are employed shall be so ventilated while work is carried on therein that the air shall not become so exhausted as to be injurious to the health of the persons employed therein, and shall also be so ventilated as to render harmless, as far as practicable, all the gases, vapors, dust, or other impurities generated in the course of the manufacturing process or handicraft carried on therein, that may be injurious to health.

SEC. 3. No basement, cellar, underground apartment, or other place which the Commissioner of the Bureau of Labor Statistics shall condemn as unhealthy and unsuitable, shall be used as a workshop, factory, or place of business in which any person or persons shall be employed.

SEC. 4. If in any factory or workshop any process or work is carried on by which dust, filaments, or injurious gases are generated or produced that are liable to be inhaled by the persons employed therein, and it appears to the Commissioner of the Bureau of Labor Statistics that such inhalation could, to a great extent, be prevented by the use of some mechanical contrivance, he shall direct that such contrivance shall be provided, and within a reasonable time it shall be so provided and used.

SEC. 5. Every person, firm, or corporation employing females in any manufacturing, mechanical, or mercantile establishment shall provide suitable seats for the use of the females so employed, and shall permit the use of such seats by them when they are not necessarily engaged in the active duties for which they are employed.

SEC. 6. Any person or corporation violating any of the provisions of this Act shall be punished by a fine of not less than fifty nor more than one hundred dollars for each offense.

SEC. 7. It shall be the duty of the Commissioner of the Bureau of Labor Statistics to enforce the provisions of this Act.

CHAPTER CXLVIII.

An Act to create the office of Attorney for the State Board of Health and the Board of Health of the City and County of San Francisco.

[Approved March 31, 1891.]

SECTION 1. The office of Attorney for the State Board of Health and the Board of Health of the City and County of San Francisco is hereby created; such attorney shall be appointed by the Governor, and shall hold his office as such attorney for the term of four years, and until his successor is elected and qualified.

SEC. 2. It shall be the duty of such attorney to act for and represent the State Board of Health and the Board of Health of the City and County of San Francisco in all legal matters which may require their attention as such Boards of Health, and to specially represent and act for and in coöperation with said Boards of Health, when required by them, in the prevention of all acts and things which, in the judgment of said Boards of Health, or either of them, may have a tendency to be detrimental to the health of the people of the State; and in such other matters pertaining to the health of the State in general and the duties of said Boards of Health, to assist and aid them with his advice, and to represent and act for them in Court.

SEC. 3. The salary of such attorney shall be three thousand dollars per annum, and shall be paid out of the State Treasury, upon warrants drawn by the Controller, in the same manner as the salaries of other State officers are paid.

SEC. 4. All Acts and parts of Acts in conflict with this Act are hereby repealed.

SEC. 5. This Act shall take effect and be in force from and after its passage.

PENAL CODE.

PART I, TITLE IX, CHAPTER VII.

RELATIVE TO THE SMOKING OF OPIUM.

SEC. 307. Every person who opens and maintains, to be resorted to by other persons, any place where opium, or any of its preparations, is sold or given away, to be smoked at such place, and any person who at such place sells or gives away any opium, or its said preparation, to be there smoked or otherwise used, and every person who visits or resorts to any such place for the purpose of smoking opium, or its said preparations, is guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding five hundred dollars, or imprisonment in the county jail not exceeding six months, or by both such fine and imprisonment. [In effect March 4, 1881.]

PART I, TITLE X.

OF CRIMES AGAINST THE PUBLIC HEALTH.

- SECTION 370. Public nuisance defined.
371. Unequal damage.
372. Maintaining a nuisance a misdemeanor.
373. Establishing or keeping pesthouses within cities, towns, etc.
374. Putting dead animals in streets, rivers, etc.
376. Violation of quarantine laws by masters of vessels.
377. Willful violation of health laws.
378. Neglecting to perform duties under health law.
380. Apothecary omitting to label drugs, or labeling them wrongfully, etc.
382. Adulterating food, drugs, liquors, etc.
383. Disposing of tainted food, etc.
394. Exposing person infected with any contagious disease in a public place.
400. Using or exposing animal with glanders.
401. Animal having glanders to be killed.
402. Adulterating candy.

SEC. 370. Anything which is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property, by an entire community or neighborhood, or by any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin, or any public park, square, street, or highway, is a public nuisance. [In effect July 1, 1874.]

SEC. 371. An act which affects an entire community or neighborhood, or any considerable number of persons, as specified in the last section, is not less a nuisance because the extent of the annoyance or damage inflicted upon individuals is unequal. [In effect July 1, 1874.]

SEC. 372. Every person who maintains or commits any public nuisance, the punishment for which is not otherwise prescribed, or who willfully omits to perform any legal duty relating to the removal of a public nuisance, is guilty of a misdemeanor.

SEC. 373. Every person who establishes or keeps, or causes to be established or kept, within the limits of any city, town, or village, any pesthouse, hospital, or place for persons affected with contagious or infectious diseases, is guilty of a misdemeanor.

SEC. 374. Every person who puts the carcass of any dead animal, or the offal from any slaughter-pen, corral, or butcher shop, into any river, creek, pond, reservoir, stream, alley, public highway, or road in common use, or who attempts to destroy the same by fire within one fourth of a mile of any city, town, or village, and every person who puts the carcass of any dead animal, or any offal of any kind, in or upon the borders of any stream, pond, lake, or reservoir, from which water is drawn for the supply of the inhabitants of any city, city and county, or any town, in this State, so that the drainage from such carcass or offal may be taken up by or in such stream, pond, lake, or reservoir, or who allows the carcass of any dead animal, or any offal of any kind, to remain in or upon the borders of any such stream, pond, lake, or reservoir, within the boundaries of any lands owned or occupied by him, or who keeps any horses, mules, cattle, swine, sheep, or live stock of any kind, penned, corraled, or housed on, over, or on the borders of any such stream, pond, lake, or reservoir, so that the waters thereof shall become polluted by reason thereof, is guilty of a misdemeanor, and

upon conviction thereof shall be punished as prescribed in section three hundred and seventy-seven of this Code. [In effect March 23, 1876.]

SEC. 376. Every master of a vessel subject to quarantine or visitation by the quarantine officer, arriving in the port of San Francisco, who refuses or omits—

1. To proceed with and anchor his vessel at the place assigned for quarantine, at the time of his arrival; or,

2. To submit his vessel, cargo, and passengers to the examination of the quarantine officer, and to furnish all necessary information to enable that officer to determine to what length of quarantine and other regulations they ought, respectively, to be subject; or,

3. To remain with his vessel at the quarantine during the period assigned for her quarantine, and while at quarantine to comply with the regulations prescribed by law, and with such as any of the officers of health, by virtue of authority given them by law, shall prescribe in relation to his vessel, his cargo, himself, his passengers, or crew, is punishable by imprisonment in the county jail not exceeding one year, or by fine not exceeding two thousand dollars, or both. [In effect March 9, 1878.]

SEC. 377. Every person who is charged with a duty relating to the registration of deaths, under chapter three, title seven, of the Act to establish a Political Code, approved March twelfth, eighteen hundred and seventy-two, who—

1. Willfully fails to keep a registry of the name, age, residence, and time of death of a decedent; or,

2. Willfully fails to register with the County Recorder a certified copy of such register, as is provided for in said chapter; or,

3. Willfully interments, cremates, or otherwise disposes of any human body, in any city, county, or city and county, without having first obtained a permit, as provided for in said chapter; or,

4. Willfully grants a permit for the interment, cremation, or disposition of a dead human body, without the certificate provided for in said chapter; or,

5. Willfully violates any of the laws of this State relating to the preservation of the public health—

Is guilty of a misdemeanor, and is, unless a different punishment for such violation is prescribed by this Code, punishable by imprisonment in the county jail not exceeding one year, or by fine not exceeding one thousand dollars, or by both such fine and imprisonment. [Approved February, 1889.]

SEC. 378. Every person charged with the performance of any duty under the laws of this State relating to the preservation of the public health, who willfully neglects or refuses to perform the same, is guilty of a misdemeanor.

SEC. 380. Every apothecary, druggist, or person carrying on business as a dealer in drugs or medicines, or person employed as clerk or salesman by such person, who, in putting up any drugs or medicines, or making up any prescription, or filling any order for drugs or medicines, willfully, negligently, or ignorantly omits to label the same, or puts an untrue label, stamp, or other designation of contents, upon any box, bottle, or other package containing any drugs or medicines, or substitutes a different article for any prescribed or ordered, or puts up a

greater or less quantity of any article than that prescribed or ordered, or otherwise deviates from the terms of the prescription or order which he undertakes to follow, in consequence of which human life or health is endangered, is guilty of a misdemeanor, or if death ensues, is guilty of a felony.

SEC. 382. Every person who adulterates or dilutes any article of food, drink, drug, medicine, spirituous or malt liquor, or wine, or any article useful in compounding them, with a fraudulent intent to offer the same, or cause or permit it to be offered for sale as unadulterated or undiluted, and every person who fraudulently sells, or keeps, or offers for sale the same as unadulterated or undiluted, is guilty of a misdemeanor.

SEC. 383. Every person who knowingly sells, or keeps, or offers for sale, or otherwise disposes of any article of food, drink, drug, or medicine, knowing that the same has become tainted, decayed, spoiled, or otherwise unwholesome or unfit to be eaten or drank, with intent to permit the same to be eaten or drank, is guilty of a misdemeanor.

SEC. 394. Every person who willfully exposes himself, or another, afflicted with any contagious or infectious disease, in any public place or thoroughfare, except in his necessary removal in a manner the least dangerous to the public health, is guilty of a misdemeanor.

SEC. 400. Any person, persons, company, or corporation, who shall bring, or cause to be brought, or aid in bringing into this State any sheep, hog, horse, or cattle of any kind, or any domestic animals of any kind, knowing the same to be affected with any contagious or infectious diseases, shall be guilty of a misdemeanor. [As amended and approved March 19, 1889.]

SEC. 401. Every person who adulterates candy, by using in its manufacture terra alba, or any other deleterious substance or substances, or who sells, or keeps for sale, any candy or candies adulterated with terra alba, or any other deleterious substance or substances, is guilty of a misdemeanor. [In effect March 16, 1878.]

SEC. 402. Every animal having glanders or farcy shall at once be deprived of life by the owner or person having charge thereof, upon discovery or knowledge of its condition; and any such owner or person omitting or refusing to comply with the provisions of this section shall be guilty of a misdemeanor. [In effect April 16, 1880.]

OTHER PENAL STATUTES.

CHAPTER CXCV.

An Act to encourage the production and sale of pure and wholesome milk, and to prohibit and punish the production or sale of unwholesome or adulterated milk.

[Approved March 12, 1870.]

SECTION 1. It shall be unlawful for any person or persons to sell, exchange, or distribute, or expose for sale, exchange, or distribution, any impure, adulterated, or unwholesome milk; or to adulterate any milk for

the purpose of offering the same for sale, exchange, or distribution; or to keep any cows for the production of milk for market, sale, exchange, or distribution, in a crowded and unhealthy condition; or to feed the same on any food which would produce impure, diseased, or unwholesome milk; and every person or persons who shall engage in or carry on the sale, exchange, distribution, or any traffic in milk, shall have the cans in which the milk is exposed for sale, exchange, or distribution, and the vehicle from which the same is vended, exchanged, or distributed, conspicuously marked with his or their names; also indicating by said mark the locality from whence said milk is obtained or produced, and any sale, distribution, or exchange of any milk in cans or by a vehicle so marked as to convey the idea that said milk was produced from a different locality than it really was, shall be and is hereby forbidden.

SEC. 2. Any person violating any of the provisions of this Act shall be deemed guilty of a misdemeanor, and be punished by a fine not less than one hundred dollars for the first offense, and double such amount for each subsequent offense, and by imprisonment according to law, if such fine be not paid. One half of such fine shall be paid to the informer or prosecuting witness, and the other half to the School Fund of the county. And any person may be compelled to testify concerning violations of this Act; but such testimony shall not be used against such witness in any criminal prosecution.

SEC. 3. The Health Officer and Health Inspectors of the City and County of San Francisco shall inform against and diligently prosecute all persons violating the provisions of this Act.

SEC. 4. This Act shall take effect immediately after its passage.

CHAPTER CCCCXCVI.

An Act concerning lodging houses and sleeping apartments.

[In effect April 3, 1876.]

SECTION 1. Every person who owns, leases, lets, or hires to any person or persons, any room or apartment in any building, house, or other structure, within the limits of any incorporated city, or city and county, within the State of California, for the purpose of a lodging or sleeping apartment, which room or apartment contains less than five hundred cubic feet of space, in the clear, for each person so occupying such room or apartment, shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof, be punished by a fine of not less than fifty dollars or more than five hundred dollars, or by imprisonment in the county jail, or by both such fine and imprisonment.

SEC. 2. Any person or persons found sleeping or lodging, or who hires for the purpose of sleeping in or lodging in any room or apartment which contains less than five hundred cubic feet of space, in the clear, for each person so occupying such room or apartment, shall be deemed guilty of a misdemeanor, and shall, upon conviction, be punished by a fine of not less than ten nor more than fifty dollars, or by both such fine and imprisonment.

SEC. 3. It shall be the duty of the Chief of Police, or such other

person to whom the police powers of the city are delegated, to detail a competent and qualified officer or officers of the regular force to examine into any violation of any of the provisions of this Act, and to arrest any person guilty of any such violation.

SEC. 4. The provisions of this Act shall not be construed to apply to hospitals, jails, prisons, insane asylums, or other public institutions.

SEC. 5. All Acts or parts of Acts in conflict with the provisions of this Act are hereby repealed.

CHAPTER CLXXXIX.

An Act to regulate the sale of certain poisonous substances.

[Approved April 16, 1880.]

SECTION 1. It shall be unlawful for any person to retail any of the substances poisonous, and by reason thereof dangerous to human life, without distinctly labeling the bottle, box, vessel, or package, and the wrapper or cover thereof in which such substance is contained, with the common or usual name thereof, together with the word "poison," and the name and place of business of the seller. Nor shall it be lawful for any person to retail any of the substances enumerated in either of said schedules to any person, unless, on due inquiry, it is found that the person receiving the same is aware of its poisonous character, and that it is to be used for a legitimate purpose.

SEC. 2. It shall be unlawful for any person to retail any of the substances enumerated herein, unless, before delivering the same, such person shall make, or cause to be made, in a book kept for that purpose only, an entry stating the date of the sale, the name and address of the purchaser, the name and quality of the substance sold, the purpose for which it is stated by the purchaser to be required, and the name of the dispenser. The book required by this Act shall be always open to inspection by the proper authorities. It shall also be the duty of the person dispensing any of the substances enumerated in either of said schedules to ascertain, by due inquiry, whether the name and address given by the person receiving the same are his true name and address, and for that purpose may require such person to be identified.

SEC. 3. Any person who shall dispense any of the substances enumerated in either of said schedules without complying with the regulations herein prescribed, shall, for every such offense, be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not exceeding five hundred dollars, or by imprisonment in the county jail not exceeding six months, or by both such fine and imprisonment; *provided*, that nothing in this Act shall be so construed as to apply to the prescriptions of any physician authorized to practice medicine under the laws of this State.

SCHEDULE "A."

Arsenic, corrosive sublimate, hydrocyanic acid, cyanite of potassium, strychnia, essential oil of bitter almonds, opium, aconite, belladonna, conium, nux vomica, henbane, tansy, savin, ergot, cotton root, digitalis,

chloroform, chloral hydrate, and all preparations, compounds, salts, extracts, or tinctures of such substances, except preparations of opium containing less than two grains to the fluid ounce.

SCHEDULE "B."

White precipitate, red precipitate, red and green iodides of mercury, colchicum, cantharides, oxalic acid, croton oil, sulphate of zinc, sugar of lead, carbolic acid, sulphuric acid, muriatic acid, nitric acid, phosphorus, and all preparations, compounds, salts, extracts, or tinctures of such substances.

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